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MONTHLY INTERNATIONAL FEATURE ISSUE

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The OIL WEEKLY

FOR THE DRILLING, PRODUCING, PIPE LINE INDUSTRY

Tret-O-lite

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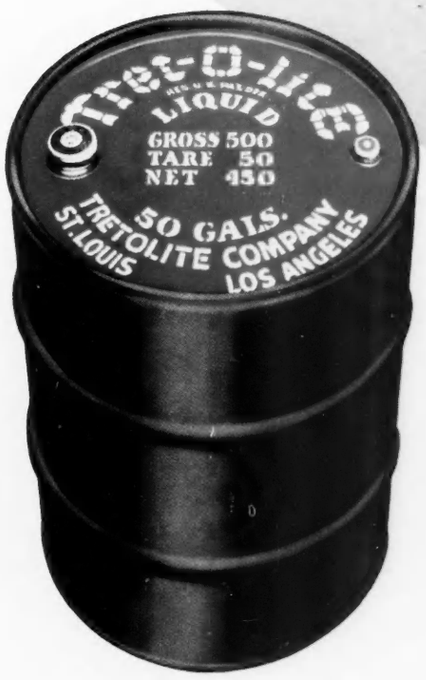
the RIGHT angle

on your

Dehydrating Problems



46-AC

Look at it from any angle. Whether out of necessity you must find some means of dehydrating your crude to meet pipe line standards, or whether you are one of the more fortunate producers who simply wants to get the most out of his production—the Tret-O-lite angle is the right angle. By merely calling the Tretolite engineer in your territory you bring not only his years of field experience to bear on your problems, but also the findings of the Tretolite research laboratories with a veritable "library" of experimental formulas. Unquestionably, an economical, efficient Tret-O-lite compound is available for your particular use.

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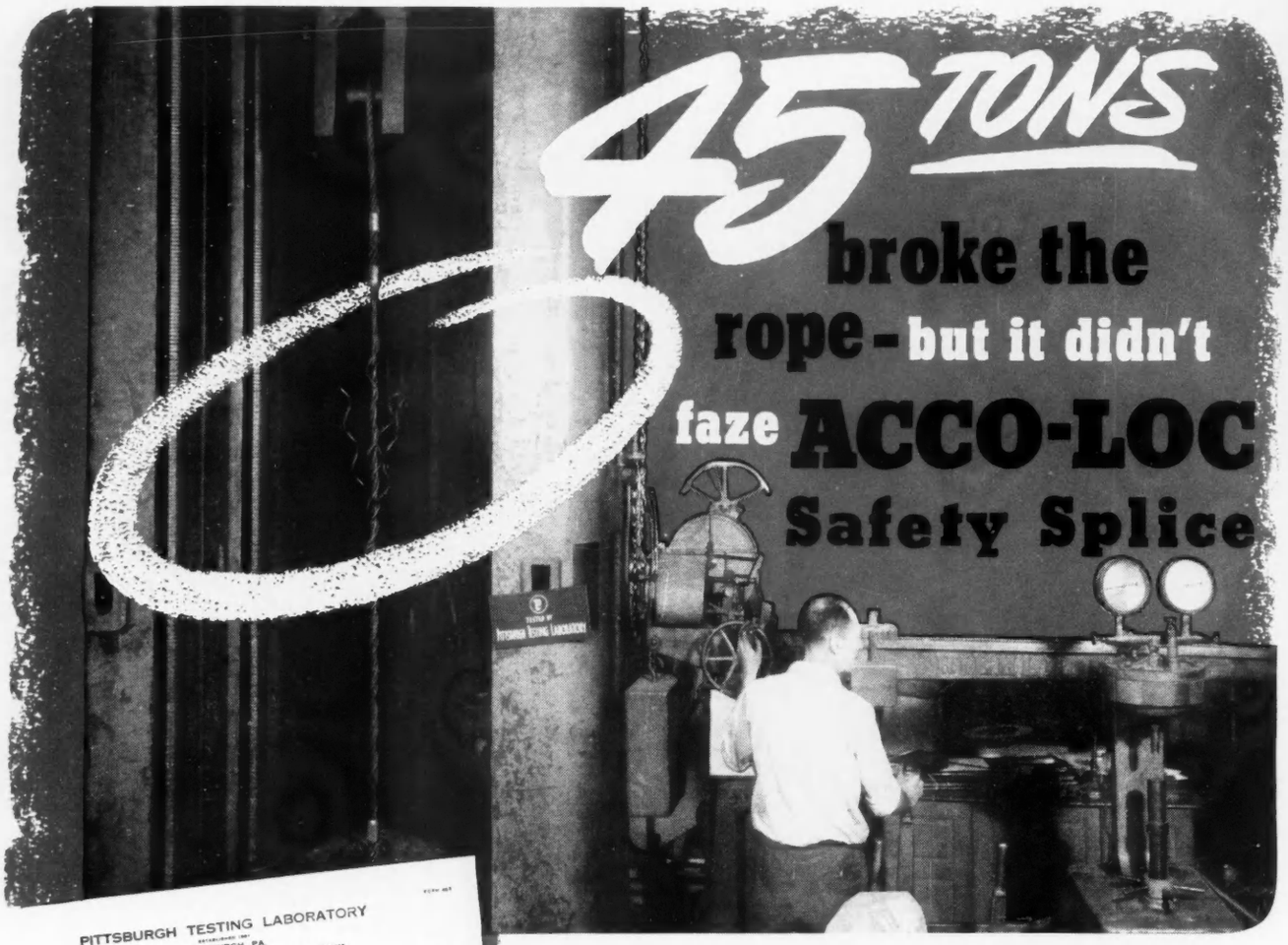
May 6, 1946

Volume 121, NUMBER 10



45 TONS broke the rope - but it didn't faze ACCO-LOC Safety Splice

PITTSBURGH TESTING LABORATORY
PITTSBURGH, PA.

LABORATORY No. 263283
FILE No. 11209.19

JOB No. PH-796
MFR'S No.

REPORT

July 14, 1945

Tensile test of - Wire rope assemblies made of 6x19 PREFORMED Improved Plow Steel Wire Rope with Independent Wire Rope Center with ACCO-LOC SAFETY SPLICE Loop on each end.

Reported to - American Chain & Cable Co., Inc.
Wilkes-Barre, Pa.

TEST NO.	ROPE DIAMETER	ACTUAL BREAKING STRENGTH	MINIMUM REQUIRED BREAKING STRENGTH	TYPE OF FRACTURE
1	3/8"	14,680#	12,800#	4 strands & center
2	3/8"	14,660#	12,800#	6 strands & center
3	3/8"			5 strands & center
		26,010#	22,400#	4 strands & center
4	1/2"	25,850#	22,400#	4 strands & center
5	1/2"	26,050#	22,400#	4 strands & center
6				
		51,250#	49,900#	3 strands & center
7	3/4"	50,900#	49,900#	4 strands & center
8	3/4"	51,750#	49,900#	3 strands
9				
		91,000#	87,600#	4 strands & center
10	1"	94,550#	87,600#	3 strands & center
11	1"	95,050#	87,600#	3 strands & center
12	1"			

RESULTS:
1. All specimens exceeded the minimum required breaking strength.
2. After testing, all ACCO-LOC SAFETY SPLICES were intact. None showed visible deformation.

NOTES:
1. All minimum breaking strengths from Federal Specification RR-R-571a for Wire Rope, dated May 8, 1945. Reference Table XVI for 3/8" dia. rope, plus 7-½% for IWRC. Reference Table XXVIa for 1/2", 7/8" and 1" dia. wire ropes.
2. For tests 1 to 9 and 12 inclusive speed of testing machine 1-1/16" per minute.
3. For tests 10 and 11 speed of testing machine 7/16" per minute.

PITTSBURGH TESTING LABORATORY
R. S. Lincoln
Physical Test Section

⅜" to 1" TRU-LAY Preformed wire ropes, equipped with ACCO-LOC Safety Splices, pulled to destruction — without the slightest effect on the rope terminals. That test was made by the Pittsburgh Testing Laboratories. But it is in the thousands of plants where ACCO-LOC Safety Splices are daily proving their 100% efficiency that the test of true worth is appreciated. — Compact, neat, flexible, made without distortion of rope structure, the ACCO-LOC Safety Splice is a revolutionary advance for wire rope endings. Send today for fully detailed literature.

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The OIL WEEKLY

ENGINEERING NEWS STATISTICS

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Looking Ahead

WITH THE EDITOR

EVALUATION of petroleum reserves for secondary recovery involves the determination of the amount of oil saturation. A slight error in this determination may mean the difference between profit and loss in the actual operation. It has been found that in certain pools in the Pennsylvania region it was very difficult to make an accurate determination of the percent oil saturation of a core sample because of excessive paraffins. In one instance, the wax content in a sample represented 6 percent, and under normal procedures, it was almost impossible to make an accurate measurement.

WAX SATURATION

J. C. Calhoun and S. T. Yuster of the Division of Petroleum and Natural Gas Engineering, The Pennsylvania State College, have prepared a paper describing a method whereby it is possible to make an accurate determination of wax saturation in reservoirs where the formation temperatures are practically the same as the temperature at the paraffin point. "Wax Saturation in Oil Sands" is the title of the article, which will appear in THE OIL WEEKLY next week.

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SIMPLICITY IS THE FIRST REQUISITE OF WELL CONTROL

One quickly forgets that a problem solved was ever a problem!

In Gray's studies toward the improvement of systems of well control, the first premise in the problem as we analyzed it has been simplification—the elimination of a part or provision for its removal after it has completed its full operating function. We have not compromised our efforts to simplify, even though the removal of each part that has been found unnecessary in the design has to that degree reduced the number of products that we are in a position to sell. Because one so quickly forgets that a problem solved was ever a problem, we enumerate some of the results obtained and contributed by Gray Tool Company.

1. Through contributing a way to safely assemble and disassemble equipment over an unquenchable source of pressure while maintaining either or both mechanical and/or weighted mud control, master valves, blowout preventers, strippers, etc., have been made removable from the completed well head assembly after they have performed their full function, with resultant simplification of the manifold left on the well during its flowing life.
2. Valve Installation, Removal and Reinstallation Under Equalized Pressure has made possible the removal of many valuable pieces of equipment that in the past were necessarily attached to the only well on which they had ever been used, rusting away.
3. The Gray Boll Weevil combination casing hanger and seal is as simple as putting a stopper in the top of a bottle. In cases where master valves and blowout preventers have failed, this hanger seal has been lowered into its tapered seat in the tubing head, completely plugging the top of the well and permitting repairs to the worn or defective equipment.
4. Simplification through the reduction of pressure subject areas, decreasing strains, and permitting the use of less material and smaller sized valves, fittings and other accessory equipment.
5. Simplification through the minimizing of lever arms, leaving out of designs elements that increase the load.

The whole is greater than any of its parts. These are some of the problems solved which are no longer problems!

GRAY
TOOL COMPANY
HOUSTON

Export Representative: GUY E. DANIELS, 30 Rockefeller Plaza, New York City
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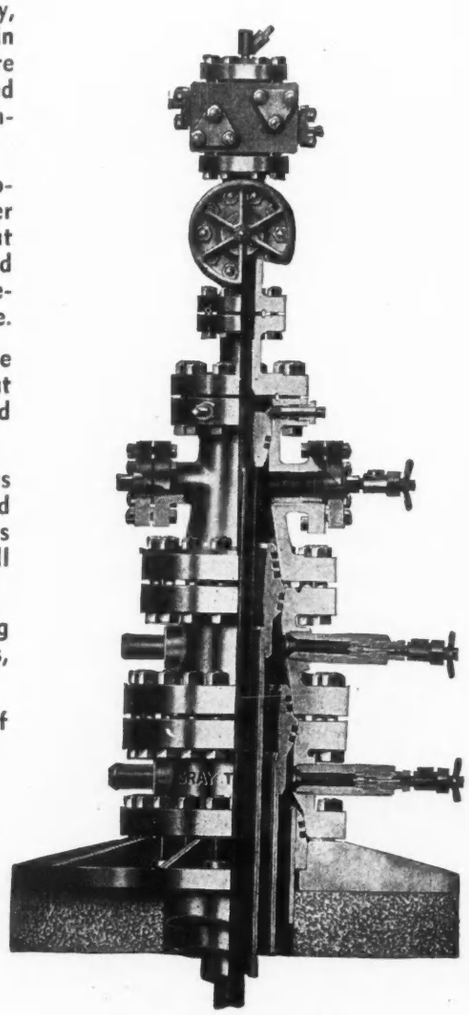
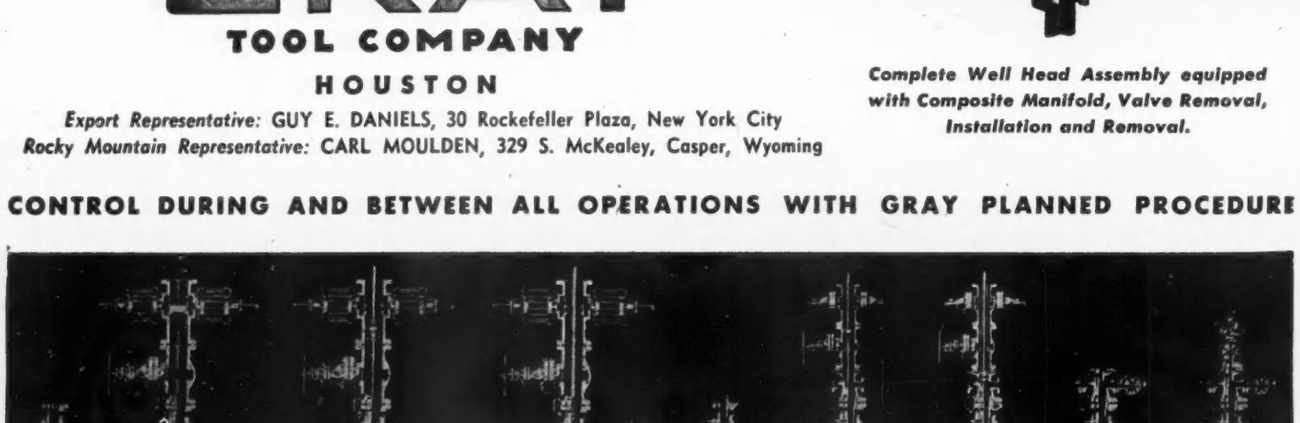


Complete Well Head Assembly equipped with Composite Manifold, Valve Removal, Installation and Removal.

CONTROL DURING AND BETWEEN ALL OPERATIONS WITH GRAY PLANNED PROCEDURE



Casing Head Attached | Drilling | Running Casing | Casing Landed | Drilling Control Equipment Removed | Drilling-in and Running Tubing | Tubing Landed | Control Equipment Removed | Manifold Attached

Now's the Time to Kill Off Bureaucrats

WHEN the OPA extension bill is finally passed by Congress it likely will be far different in character than the measure recently passed by the House. It is probable that the Senate will remove many of the restrictions imposed upon the agency by the House bill. Consequently, prospects for the lifting of petroleum and other price controls are less favorable than a week or two ago.

This sudden shift in sentiment is due to the campaign underway to get the public consumer behind price control retention. This campaign has swelled to proportions that makes it the most gigantic attempt of this kind in the history of the nation. It is resulting in a flood of letters to congressmen, especially Senators, urging that OPA be retained.

The public is being aroused behind OPA largely through the efforts of Economic Stabilizer Chester Bowles and OPA Director Paul Porter. One can hardly turn on the radio or pick up a newspaper without hearing or seeing an appeal by one or the other of these men for the extension of price controls. Both of these men are professional experts in the field of public appeal, both having been publicists in their private business life prior to joining the federal government. Bowles was a partner in a firm which handled many advertising and public relation accounts for industrial concerns. Porter was publicity director of the Democratic National Committee.

It appears significant that the administration should twice have selected professional publicists instead of economists or business men to head the nation's price control agency. Could it be that administration heads were more interested in perpetuating government control over prices than in seeing that the job was properly administered?

In our governmental affairs we are approaching the full fruition of our steady trend toward Bureaucracy. We have the spectacle of men appointed, not elected, going to the public over the heads of those duly elected to make the laws of the land. Of course, the Congress has, by supinely giving up its own prerogatives and responsibilities during the past several years to the executive department with its thousands of bureaucrats, invited the situation in which it now finds itself.

The question of continuing price control is a matter of great importance to every American citizen. It transcends the question of price control alone. It is an issue that comes down to the fundamental proposition of whether we are going to have the form of government, the form of social life, the form of industrial life long known in this country. Therefore, it is an issue that should be determined by all the citizens of this country, and not by a minority.

Now, since those who owe their political positions to appointment, rather than election, are shouting from every housetop their proposition that they be preserved in jobs for which their aptitude is in very great doubt, the citizen is left no alternative but to fight fire with fire and let the House and Senate know what a puerile job these bureaucrats have actually done, and let our elected representatives in Washington understand that the American people do not wish to be committed to a permanent course of governmental controls. Because, as surely as the sun shall rise, these same bureaucrats if continued in power will still be howling a year from now for the preservation of that power.

Objections Found to Senate Research Bill

INSTEAD of a relatively simple organization consisting of a group of people well versed in the various scientific fields who would be in position to advise the President and make recommendations to Congress of what they needed and how the funds to support basic science might be expended, the Kilgore-Magnuson National Science Foundation Bill has a tendency to provide an elaborate governmental setup which would seriously hinder research.

This is the finding and pronouncement of R. J. Dearborn, chairman of the National Association of Manufacturers committee on patents and research and it is quite in line with the views of those who hold for a full development of scientific and technical resources as suggested by Dr. Vannevar Bush, director of the Office of Scientific Research and Development.

Dearborn doubts if the advisory board, as provided in the Kilgore-Magnuson bill would attract the best brains of the country because it is purely advisory, does not have *full responsibility* for the activities of the foundation. The bill's governmental staff is "of a size which of itself would give many opportunities for the operation of the spoils system," Dearborn further believes.

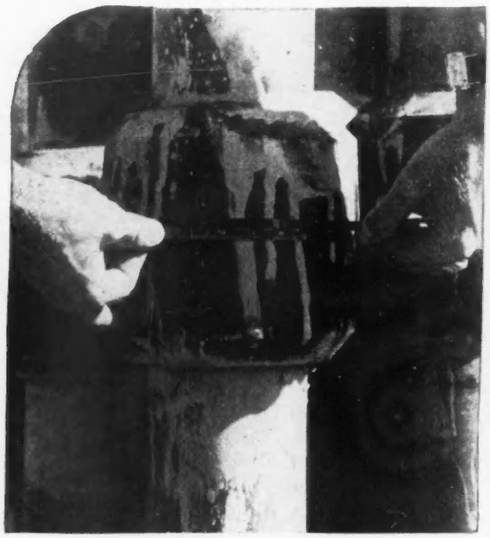
Watch the Current Move for New Taxes!

OIL INTERESTS must show more than passive interest in the attempts being made to pass special tax measures in the various states. These are not local movements, but trends of national import.

Illinois recently attempted to enact a bill that would have imposed a 14-cent per barrel tax on crude oil for the purpose of creating a soldier bonus fund. In this instance, oil was selected along with horse racing, slot machine operators, and liquor dealers as sources of income. Last week Louisiana held a hearing on a proposal to impose a 3-cent gas gathering tax.

The industry must not ignore the import of these efforts, but must work hard and continuously to defeat all inequitable taxation proposals. There will be many other similar attempts, for most states are seeking ways and means of increasing their financial funds. If one state succeeds in enacting a special tax on oil or gas, it will be just the beginning of similar action in other states.

Why Lay that Drill Pipe Down, Man, When *Stabilizers* make it stand up?



CASE HISTORY NO. 15

Drill Pipe failure is a costly worry in all fields. Patterson-Ballagh Drill Pipe Protectors and Stabilizers act as bearings to prevent the wearing down of joints below safe working diameters.

In a Louisiana well, an operator was experiencing excessive wear on the first few tool joints above the drill collars. They were making a trip every day and the wear on the tool joints was sufficient to cause them to lay down a joint or two each trip. After fully protecting *every* joint in their string with Patterson-Ballagh Stabilizers, their drill pipe failure due to tool joint wear was ended. These Protectors were run in the first well approximately 60 days and are now being used on another location.

The joints, originally 6⅛" O.D., were worn down before the Drill Pipe Stabilizers were installed. There has been no *further decrease* in the diameter since they were *fully rubbered*. With no reduction in diameter, the stabilizers are still protecting the tool joints, and will for a long time.

MORAL: An ounce of prevention is worth a pound of cure. A joint is as good as its protector or stabilizer. Don't let drill pipe lay down on the job when stabilizers make it stand up. Ask your Patterson-Ballagh man for 100% protection of your drilling string today!

Specify *"Best Bet Yet"*

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The Week's News

WITH hearings out of the way, the Senate Banking and Currency Committee this week began the drafting of price control extension legislation to achieve the conflicting objectives of preventing inflation, giving industry a maximum of freedom and permitting more scope for OPA than contemplated in the bill passed by the House.

OPA Promises Announcement—Meanwhile, OPA officials who met with industry advisory committees in Chicago last week are working on a program for the decontrol of oil, possibly to announce something within ten days but, if past performance is a guide, more likely within as many weeks. Page 12.

Tidelands Bill Ok'd—The tidelands controversy moved closer to a showdown with a report by the Senate Judiciary Committee recommending passage of the House-approved resolution without change. Also, California filed the "succinct statement" of its position ordered by the Supreme Court, and countered the complaint of the Justice Department that its original answer was too verbose with a charge that the government's petition was too ambiguous. Page 14.

Pipe Line Disposal—The War Assets Administration has disposed of the first of the surplus petroleum pipe lines for use as a gas pipe, but has made no appreciable progress in dealing with its major problem, the disposal of the Big Inch lines.

Effects of Coal Strike—Continuance of the coal strike is beginning to be felt badly by several segments of the nation's economy. Steel production is falling off at an accelerating rate, manufacturers in other lines are feeling the pinch of the fuel shortage and utility companies are rapidly approaching crisis conditions. Page 10.

Building Order Explained—An exposition by the Civilian Production Administration of what may and may not be done under its construction-limitation order reveals that no barriers have been raised to the installation of facilities such as towers, etc., outside the walls of refineries, but while other industrial equipment may be installed within refineries and other industrial plants without regard to cost limitations, the $15,000 allowable will apply to any building alterations which may be required.

Lead Allocations Upped—Lead allocations for tetraethyl production have been increased by slightly more than one-sixth for May and the CPA is currently engaged in a study of the situation to ascertain whether and how additional relief can be provided. Page 11.

Oil Pool Analyzer—The Carter Oil Company last week announced development of an oil pool analyzer, an electronic device, which will be offered royalty free to the industry. Page 13.

Oil Import Plan—A group of East Coast marketers is planning to import crude oil from Venezuela and Colombia and is negotiating with Gulf Coast refiners to run some 30,000 barrels daily. Page 13.

IPAA Lambasts OPA—Scheduled and impromptu speakers alike attacked OPA as being responsible for current ills of the U. S., many such talks being delivered at the IPAA meeting last week in Houston. Page 15.

Major Texas Strike—Humble Oil & Refining Company's important Smith County, Texas, strike to touch off major drilling program. Page 52.

Oil Pact Delay—The proposed British loan and a congressional jam seem to have delayed considerably further discussion of the proposed Anglo-American oil pact. Page 11.

PAW Continued—President Truman's announcement that PAW would be continued came at a time when most officials of that agency were already prepared to lock its doors and leave Washington. Page 10.

Bureau of Mines Forecast—May demand for domestic crude is estimated at 6000 barrels daily more than April, Bureau of Mines announced. Story below.

Davies Resignation—Washington little excited by announcement of Ralph Davies' resignation as executive of Standard Oil Company of California. Page 10.

May Demand for Crude Is Estimated Slightly in Excess of April Figure

May demand for domestic crude oil will average 4,626,000 barrels daily, an increase of 6000 barrels over April, continuing the upward trend which has been steady since the first of the year, it was forecast by the Bureau of Mines May 3. The major change from April will be the previously announced reduction in requirements for Texas crude, which will be offset by increases in twelve states, with rates in seven states remaining unchanged.

Discussing the current situation, the bureau reported that stocks of light fuel oils and kerosine show a rapid increase, gasoline stocks a heavy liquidation and residual fuel oil stocks a slight gain, and commented that a seasonal shift in yields from light fuel oil and kerosine to gasoline "seems probable" and a larger export market for light oils is available if export restrictions should be modified. An adequate supply of heavy fuel oil is still a serious problem, in view of Naval requirements and the necessity of a seasonal increase in stocks.

Preliminary data for the first quarter indicate that total motor fuel demand was about 172 million barrels, some 29 million barrels greater than in the corresponding period of 1941 with the increase attributed in about equal proportion to exports, automotive use and military and other non-automotive uses combined.

Motor Fuel Demand Up

For the current quarter, total motor fuel demand is estimated at 200 million barrels, or 11 percent above the same period in 1941. About half of the expected increase will be in exports and the other half in non-automotive demand chiefly for agricultural uses, with military purchases and automotive use estimated at about the same as in 1941. Virtually no new purchases of 100-octane aviation gasoline are included in the estimates, as military requirements during the first half of the year will be met from stocks in the hands of the military.

The bureau, which has been studying the situation with other federal agencies, will publish a forecast of total oil requirements for 1946 next month. At the moment it appears that, with total demand for all oils continuing at a much higher level than was originally anticipated, demand for domestic crude may be sustained through the second and third quarters at the rate of the first four months.

The bureau's estimate of demand for crude, by states, was as follows:

Texas, 2,050,000 barrels, down 30,000 barrels from April; California, 840,000 barrels, up 6000; Louisiana, 380,000, up 6000; Oklahoma, 370,000, up 300; Kansas, 252,000, up 2000; Illinois, 204,000, up 7000; New Mexico, 99,000, unchanged; Wyoming, 97,000, up 5000; Arkansas, 79,000, up 1000; Mississippi, 53,000, unchanged; Michigan, 46,000, unchanged; Pennsylvania, 34,000, up 1000; Kentucky, 30,000, up 500; Colorado, 23,000, up 1000; Montana, 22,00, up 1000; Indiana, 16,400, up 2400; New York, 13,200; West Virginia, 8400; Ohio, 7300; and Nebraska, 800 barrels, all unchanged; and "other," 900 barrels, up 100.

Davies Severs Connection With California Standard

Resignation of Ralph K. Davies as a vice president of Standard Oil Company of California failed to create much surprise in Washington where it was known that the PAW official and officers of the company had not been in agreement for some time. At the week-end, Davies could not be reached for comment, but a spokesman said he had made no definite plans beyond remaining in Washington until PAY folded up. Thereafter, it is probable that he will take a rest before returning to business.

Davies, who came to Washington five years ago this summer, has remained continuously on his job as deputy administrator of PAW.

His former chief, Harold L. Ickes, went to the annual meeting of the company, eligible to attend through the acquisition of ten shares of its stock, with the intention of bringing the situation to a head and, if possible, force the election of Davies as first vice president. Shortly before the meeting, however, he received a telegram from Davies announcing his resignation.

Standard of California made no statement other than "Ralph Davies has resigned from the company and his resignation has been accepted."

Executive Order Calls For Continuance of PAW

With announcement by President Truman that PAW will be continued for awhile, but will be terminated as soon as possible, a half-dozen officials, awaiting word to lock up the agency, found themselves marooned in Washington for an indefinite period.

Why the executive order recommended by Deputy Administrator Ralph K. Davies six weeks ago was held up was not explained, but it was generally believed that the Navy fuel oil situation and the coal strike influenced the President to delay action in case of an emergency.

Set up and operated purely on the basis of a war agency and without any staff to carry out a program, there was some question what PAW could do, and officials admittedly had no intention of injecting themselves into peacetime problems unless ordered to do so from the White House. They were confident, however, that the order would be signed in a few days, freeing them to leave Washington.

Companies Split on Idea of Out-of-Court Settlement

Companies involved in the government's "Mother Hubbard" suit have made no further moves to discuss a consent decree with Department of Justice officials since their exploratory visit to Washington last month, but succeeded last week in getting an additional month from the court in which to file their answers, now having until June 30.

The industry's strategy may take the form of either a general denial of the government's five-year-old charges, indicating an intention of fighting the suit, a request for a bill of particulars from the department, a motion to discuss the suit, or down-to-earth negotiations for a consent decree.

Reportedly, the companies are split on the question of an out-of-court settlement, the line-up being rumored to be 17 in favor of a consent decree, one believing that it is in a good position to fight the case, another willing to fight, and still another desirous of making a deal with the department on its own.

What the department wants was set forth in the prayer for relief in the original complaint and the next move is up to the companies, who are expected to come in with an offer, and any consent decree developed will lie between what the companies originally proposed and what the government originally asked. In view of the changes in industry practices which have come about in the five years since the suit was filed, it is possible that the department may be more reasonable in its demands.

Gas Exportation Question May Find Texas Divided

The Texas Railroad Commission may find itself on both sides of the question of exporting gas when the Federal Power Commission holds its rehearing on the application of the Reynosa Pipe Line Company. Reynosa had been granted permission to export gas to Monterrey, Mexico, but the case was reopened at the request by a majority of the Texas Railroad Commission.

Recently the commission was represented in Washington by members of the Texas attorney general's staff. Arguments presented by the Attorney General were that the gas should not be exported because there are adequate supplies in Northern Mexico and that Texas gas should be kept in Texas.

Last week Railroad Commissioner Ernest O. Thompson, who has disagreed with Commissioners Beauford Jester and Olin Culberson on the question, said he has asked the Attorney General to prepare a brief on the opposite side of the question.

Thompson takes the position that the authority of the Railroad Commission is limited to the prevention of physical waste and that it has no right to question the disposition of the products once they are legally produced. Whether he will file the brief if it is prepared, Thompson has not determined.

Minerals Yearbook

The first Minerals Yearbook to be published since before the war came off the presses of the Government Printing Office last week, and is now available from the Superintendent of Documents at $3 per copy.

For the benefit of those who may be interested only in some particular commodity, the GPO will sell copies of the various chapters at from 5 to 15 cents each. These will include chapters on crude petroleum and petroleum products; natural gas, and natural gasoline and liquefied petroleum gases.

Prolonged Coal Strike Tightens Steel Supply

The steel situation will "approach the chaotic" by June 1 if the coal strike is not settled, it was predicted this week by industry spokesmen who pointed out that the shortage of fuel is beginning to necessitate cuts in power consumption for manufacturing activities, thereby adding to the difficulties of steel producers.

The cutback in steel production is beginning to accelerate, and the loss in output will grow steadily larger weekly from now on.

Potentialities of a black market in steel are seen in isolated transactions, but since the mills are operating on a quota system it is not expected to become a major factor, but, rather indicates the extremely tight steel supply.

In moves to conserve the nation's rapidly dwindling stocks of coal, the Office of Defense Transportation banned virtually all freight shipments except fuel and food and followed with an order to all coal-burning railroads to halve passenger service by May 15. Under the freight embargo, priority will be given petroleum products and other fuels, the need for which increased as coal supplies declined.

As John L. Lewis and the coal operators showed no signs of getting together on an agreement which would re-open the mines, the administration became increasingly concerned, but President Truman indicated he would act only as a last resort, apparently bearing in mind that once, when the government took the mines over, the miners failed to return to work.

However, the President told a news conference, in time the mine shutdown must be viewed as a strike against the government and, should the matter reach that stage, the government will act accordingly.

Baden Heads Anchor

William A. Baden, one of the founders of Anchor Petroleum Company, has been elected president of the organization with headquarters at Tulsa. Baden, 37, became connected with Warren Petroleum Corporation in 1933 and after seven years severed his connection to organize Anchor Petroleum Company in association with L. F. Rooney, Paul R. Smith and B. B. Blair.

Directors of the company also named J. S. Feroe, assistant to the vice president in charge of sales of the Hanlon-Buchanan Company to head Anchor's natural gasoline sales department.

Sunray Merger

Sunray Oil Corporation and Transwestern Oil Company have agreed in principle on a merger of Transwestern into Sunray, it was announced last week by C. H. Wright, president of Sunray and A. A. Seeligson, president of Transwestern.

The merged company will have daily oil production of approximately 35,000 barrels. The consummation of the merger is subject to stockholders' approval.

Louis S. Cates, AIME Chief, To Make Nationwide Tour

Louis S. Cates, president of the American Institute of Mining & Metallurgical Engineers, will begin a tour May 17 of local AIME sections throughout the country.

Louis S. Cates

Special meetings are scheduled at the various section headquarters honoring the new president as follows: Chicago, May 18; St. Louis, May 20; Tucson, May 23, 24; Midland, May 25; Houston, May 27; Fort Worth, May 28; Tulsa, May 29; Joplin, Mo., May 30; and by way of St. Louis back to New York. He will be accompanied through Texas by John R. Suman, vice president, Standard Oil Company (New Jersey).

Cates was elected president of AIME November 14, 1945, for the year 1946, term of office to begin February 26. He succeeds Harvey S. Mudd, former president. A native of Boston, headquarters for the mining industry during the early 1900s, Cates chose the mining field, and studied at the Massachusetts Institute of Technology where he was graduated in 1902. He made his reputation as a copper miner from 1910 to 1913, during which time he was instrumental in making a successful and dividend-paying property of Ray Consolidated Copper Company. In 1930, he joined Phelps Dodge Corporation as its president, which position he now holds. Under his guidance, the firm has become one of the three big copper producers of the world.

More Lead for Gasoline During May Than in April

Under heavy pressure from the oil industry, the Civilian Production Administration last week announced that the May allocation of lead for tetraethyl fluid will be 4160 tons, an increase of 660 tons over the April quota, and disclosed that it was making a thorough investigation of the situation and would meet this week with oil industry representatives to discuss their needs.

CPA said that on a quarterly basis, the May allocation will produce approximately 25 percent less tetraethyl fluid than was used in the first quarter of the year.

Under the lead allocation order issued April 2, consumers of ethyl fluid were restricted in its use to 27 percent monthly of the base period, November and December, 1945, and January, 1946. Officials explained that the April allotment of lead was less than the consumption of fluid permitted under the order because of the "comfortable" inventories of fluid in the hands of the one producer on April 1. For this and subsequent months, however, it is recognized that allotments of lead and permitted fluid consumption "must be in close agreement since there is no longer a large margin of fluid inventory to draw upon."

As a step to conserve supplies in this country, the Commerce Department's office of international trade has placed all anti-knock compounds not of petroleum origin, including ethyl fluid and any mixture containing more than three cc. tetraethyl lead per gallon, on the positive list of commodities for the export of which in quantities exceeding $25 in value specific authorization must be obtained.

The department also placed toluene of petroleum origin on the positive list.

Gasoline and Lube Taxes Show Big Decline in Year

Federal revenue from the taxes on gasoline, lubricating oil and pipeline transportation during the first quarter of the year were $22 million under those of the corresponding period in 1945, Internal Revenue Bureau has reported.

Most of the loss was in collections from gasoline, which dropped to $82,662,489 for the first quarter from $95,425,771 in that period last year, but receipts from lubricating oils dropped to $14,618,310 from $22,567,979, and collections from pipe lines dropped to $3,525,225 from $4,052,255.

Collections for the month of March included $24,743,591 from gasoline, against $32,423,442 in February; $4,863,612 from lubricating oil, against $5,567,162, and 1,190,902 from pipe-line transportation, against $979,122, the bureau reported.

Tankers for Sale

The Maritime Commission is offering a number of small, self-propelled steel tankers for sale at a minimum price of $100,000 each, following an unsuccessful attempt to dispose of them through competitive bids opened last March 13.

The vessels, declared surplus by the War Department, have a speed of about nine knots and a liquid cargo capacity of 37,685 cubic feet.

California Group Will Study Labor Problems

In a cooperative effort to maintain fair and reasonable wages, hours and working conditions in the petroleum industry, six of the major oil companies have announced formation of the Pacific Oil Institute with offices in Los Angeles. A secretary and staff will be maintained to compile and distribute data on labor relations.

The Institute will not represent any member in collective bargaining or in negotiation of labor contracts. Through consultation and exchange of information, it is intended to aid members in forming sound and desirable labor policies and harmonious industrial relations cies and harmonious industrial relations.

The board of governors comprises S. J. Dickey, General Petroleum Corporation; Charles S. Jones, Richfield Oil Corporation; S. Belither, Shell Oil Company, Incorporated; R. G. Follis, Standard Oil Company of California; William F. Humphrey, Tide Water Associated Oil Company, and Reese H. Taylor, Union Oil Company of California.

Justice Said Checking Into Cotton Valley Operations

A complaint regarding activities of an unnamed group in the Cotton Valley field, Louisiana, is under investigation by the Department of Justice. Officials last week said the matter did not involve its operation for production but certain matters which developed after the oil left the well-head.

It was pointed out that a Supreme Court decision some dozen years ago held that the production of oil was not commerce, and the department has never concerned itself with production activities.

The complaint on which the investigation is based alleged that a group involved in the unit operation has gone beyond the theory on which such agreements are based and has used it for other purposes than conservation.

British Loan Delays Oil Pact

Failure of the Senate to dispose of the British loan agreement last week as scheduled, and the apparently growing opposition to the advance of $3.75 billion has raised the question when and how the administration will seek ratification of the Anglo-American petroleum agreement.

With Congress due to adjourn for the summer early in July and the necessity for disposing of a large amount of must legislation within the next two months, prospects for early action on the agreement have dimmed considerably.

The situation with respect to the loan has justified the belief of State Department officials that the agreement would have a better chance of ratification if it was held up until the Senate had acted upon the money legislation. Had the treaty been submitted first, it undoubtedly would have been the target for much of the criticism of British policies and practices which has been directed at the loan.

When hearings could start on the oil pact, if it were to be taken up in the near future, is doubtful because of the absence of Chairman Tom Connally of the Senate Foreign Relations Committee, who is attending the meetings of the big four ministers in Paris.

The congressional campaigns also are expected to be considered in deciding whether to take up the agreement.

OPA Action on Oil Price Ceilings By May 15 Rumored in Washington

The Senate Banking and Currency Committee is attempting to write legislation which will permit the government to regulate the speed with which prices rise while at the same time giving industry a maximum of freedom from control, following several weeks' hearings at which spokesmen for business bitterly attacked the OPA and administration officials and consumer representatives vigorously defended.

The committee's aim will be to develop a substitute for the House-approved bill, which would require the immediate release of oil prices as well as the prices of most other large industries.

Indications are that the Senate group will eliminate the House provision for mandatory decontrol when production of a commodity reaches the 1941 level, tone down the requirement that prices be set at levels which will insure the return of all costs plus a reasonable profit all along the line and provide for an end of the OPA policy of requiring distributors to absorb some of the cost increases which producers and manufacturers cannot take.

Elimination Preferable

The presentation of the oil industry for decontrol was concluded by Russell B. Brown, general counsel of the Independent Petroleum Association of America, who last week told the committee that suspension of price ceilings was undesirable as a substitute for elimination because it left too much power in the hands of the price administrator to "clamp down" should an industry commit some act unpleasing to him.

"The producer of petroleum has endured the character of controls that have been imposed upon him through improper and stupid and antagonistic administrative agencies," Brown said. "We have suffered greatly. About 25 percent of our strength has been needlessly sacrificed through such inefficient administration. If controls of this character are to continue we will lose much more."

Meanwhile, OPA officials met last week with the crude oil and refining industry advisory committees to discuss a program for the termination of price ceilings.

Reportedly, the price agency had before it several proposals for release of the industry. One called for termination of price controls all along the line from producer to filling station; another for suspension until the course of prices become definitely known, and a third for the lifting of ceilings on a selected list of products as a test of the reliability of industry assertions that decontrol would not be followed by excessive price rises.

Although to do so would require OPA to move much faster than is its want, it was rumored that action on oil price ceilings might be taken around May 15.

J. H. Reppert, associate director of the fuel price division, did not substantiate that report, but told the Senate committee that he was "optimistic" that controls would be removed by June 30.

Reppert discussed the situation after Governor Robert S. Kerr of Oklahoma charged that under the OPA ceilings Oklahoma oil must be produced and sold at prices "below its intrinsic value."

The "uncertain factor" in the oil situation, Reppert said, is the development of an unbalanced demand for fuel oil. Testifying before the industry committees met in Chicago, he indicated that the fuel oil phase and other factors would be ironed out in the discussions with the industry representatives.

Corrosion Engineers Meet This Week in Kansas City

The annual convention and exhibit of the National Association of Corrosion Engineers will open May 7 at the Municipal Auditorium and Hotel President in Kansas City, Mo.

Growth of NACE since it last annual meeting, held in Houston in 1944, has been so rapid that the program has had to be divided and classified into symposiums, each on an integral part of industry.

R. A. Brannon, Humble Pipe Line Company, Houston, association president, will preside at the general assembly at 2 p.m. May 7. At the morning session of May 8, Walter F. Rogers, Gulf Oil Corporation, wil preside at the condensate well corrosion committee session.

Guy Corfield, Southern California Gas Company, will preside at the gas industry session at 2 p.m., May 8.

Papers on installation and protection of pipe will be presented by P. D. Mellon, Canadian Western Natural Gas Company; H. A. Robinson, Dow Chemical Company; I. A. Grand and S. M. Peek, Owens-Corning Fiberglas Company; W. R. Schneider, Pacific Gas and Electric Company, and W. E. Huddleston, Bartlesville, Okla.

At a general session May 9, D. R. Hiskey, Dearborn Chemical Company, will present a paper on "Maintenance of Oil Field Equipment."

The oil industry session will be held on the morning of May 9 with Walter F. Rogers, Gulf Oil Corporation, presiding with papers by B. B. Morton, International Nickel Company, Inc.; T. S. Bacon, Lone Star Producing Company; F. C. Greco and H. T. Griffin, United Gas Pipe Line Company; M. E. Holmberg, Phillips Petroleum Company; C. K. Filerts, H. A. Carlson, R. V. Smith, F. G. Archer and V. L. Barr, Bureau of Mines, Bartlesville, Okla.; Harry Waldrip and Rogers, Gulf Oil Corporation; Paul Menaul, Stanolind Oil & Gas Company, and W. D. Yale, The Texas Company.

Communications to Feature Petroleum Electric Meet

The Petroleum Industry Electrical Association convention in Tulsa commencing May 7 will feature postwar facilities in radio communications now available to the entire petroleum industry.

Arrangements are under the direction of M. C. Callahan, Gulf Refining Company, Tulsa, who is vice president and general chairman of the association. Other officers of the association are president, R. C. Appling, United Gas Pipe Line Company, Shreveport, La.; and secretary-treasurer, J. F. Collerain, Houston Pipe Line Company, Houston. A large attendance is expected because of the revived interest of both producing and pipe line companies in new developments now being made available to industry.

Highlighting the two-day conference will be a number of addresses including "Radio Telephone Communications for the Petroleum Industry" by D. E. Noble, general manager of the communication and electronics division, Galvin Manufacturing Corporation, Chicago; "Radio Facilities for the Petroleum Industry" by Glen E. Nielson, chief, emergency and miscellaneous division, Federal Communications Commission, Washington; and "Beamed Transmission, Teletype and Facsimile Communications" by C. E. Davies, assistant to vice president, Western Union Telegraph Company.

A varied exhibit of communications equipment and material has been assembled. New officers will be elected. Present officers have served for two years.

Hanlon-Waters Negotiate

E. I. Hanlon, Tulsa, chairman of the several Hanlon companies, last week announced that negotiations for a consolidation of his companies with Warren Petroleum Corporation, Tulsa, are in progress. If the deal is consummated it will make Warren Petroleum one of the foremost producers and marketers of natural gasoline.

The Hanlon companies are Henaghan and Hanlon, Inc., pioneer manufacturers and first marketers of casinghead gasoline; Hanlon-Buchanan, Inc., of which D. E. Buchanan is president; Smith Brothers Refining Company, Hanlon Pipe Line Company, Hanlon-Boyles, Hanlon Gasoline Company, and Hanlon Gasoline Corporation of Texas. The companies have widespread interests, especially in Texas, and are represented abroad.

Warren Petroleum Corporation, organized in Tulsa in 1922, is engaged in all phases of the petroleum industry, including crude oil production, natural gasoline plants, liquefied petroleum products such as butane and propane, pipe lines, and owns and operates extensive terminal and storage facilities on the coasts of Texas, Louisiana and Pennsylvania for export and coastwise shipments.

Included in the Warren companies are the American Natural Gasoline Company, Warren Petroleum Corporation, and the Natural Gasoline Corporation.

Crude Oil Imports Planned

A group of East Coast marketers and refiners is planning to merge present activities into integrated operations aimed, among other objectives, at the importation of crude oil from South America. The new group has opened negotiations for the purchase of royalty crude oil from both the Venezuelan and Colombian governments, and has sent representatives to both of these nations for discussion of the question.

The Atlantic Coast group also has under way negotiations with two Gulf Coast refiners who would join the new integrated setup and run most of the 30,000 barrels a day of crude which is the estimated requirement of the group's operations.

If the Venezuelan and Colombian negotiations are successful, they would alter the present policy of those two governments in regard to royalty oil. Contracts permit Venezuela and Colombia the option to purchase oil produced within their borders, or take cash in lieu of the crude. To date the cash payment basis has prevailed almost exclusively. It is still unknown whether Venezuela and Colombia would actually take possession of and store royalty oil designated for the new plan or whether the nations would simply order a bookkeeping transaction on it between the new concessionnaires and current operating companies.

A spokesman for the East Coast group said his principals had been assured by Venezuela that that nation would not use the new negotiations "as a club over the heads of the oil companies" now operating in the country in order to win a higher purchase price for royalty oil.

Natural Gasoline Stocks Greatest in 3½ Years

February production of natural gasoline and allied products averaged 13,516,000 gallons daily, a slight increase over the January average of 13,389,000 gallons, the Bureau of Mines has reported.

The higher output was attributed by the bureau to increase in "other" Texas, the Panhandle, Oklahoma, Louisiana inland and Kansas areas, which more than offset decreases in the Texas Gulf and Illinois.

The bureau reported February production as including 185,348,000 gallons of natural gasoline against 201,419,000 in January; 23,970,000 gallons of natural gasoline mixture against 25,196,000; 34,015,000 gallons of raw condensate against 37,899,000; 36,398,000 gallons of commercial butane-propane mixture against 41,419,000; 28,267,000 gallons of normal butane against 27,379,000; 22,305,000 gallons of propane against 25,990,000; 11,307,000 gallons of other mixtures against 12,362,000; 12,133,000 gallons of iso-butane against 13,793,00; 2,266,000 gallons of iso-pentane against 3,271,000; 18,595,000 gallons of finished gasoline and naphtha against 22,441,000, and 3,830.000 gallons of other products against 3,887,000.

Stocks increased at both refineries and plants and terminals to reach a total of 245,400,000 gallons, the highest since September, 1942. Stocks at refineries increased from 77,532,000 to 84,798,000 gallons and those at plants and terminals advanced from 133,893,000 to 160,602,000 gallons, the report showed.

Tanker Sale Price Nears Its Cost Price of 1941

Provisions of the Merchant Ship Sales Act of 1946 prohibiting the sale of tankers at less than 50 percent of the domestic war cost will make it necessary for the Maritime Commission to get close to the estimated 1941 cost for its surplus T1-M-BT tankers.

These tankers, 325 feet long, with a speed of ten knots and a capacity of 31,000 barrels, are estimated to have cost $994,000 to build in 1941 and $1,774,038 during the war.

While the act provides that the unadjusted statutory sales price of tankers should be 87½ percent of the 1941 cost, the price on that basis—$869,750—would be less than 50 percent of war cost—$887,019—and the latter therefore becomes the minimum unadjusted price.

Government Seizure Review Is Denied by Supreme Court

Review of a decision of the Fifth Circuit Court of Appeals involving compensation for the oil underlying 11,000 acres of land in Smith County, Texas, taken by the government in 1943, was denied last week by the Supreme Court without comment.

The case (THE OIL WEEKLY, April 8) was brought to the court by the owners of the land on issues involving the question whether their recovery was limited to the rental value of the use of the surface only.

The suit was said to be of considerable importance because of the fact that the government had taken over numerous areas of oil-bearing lands under the same procedure.

Chief Supervisor Quits

C. W. Strance, chief supervisor of the Oil and Gas Division of the Texas Railroad Commission has resigned the $5000-a-year job effective May 1. His successor has not been selected, but the Commission may promote one of its own men to the job.

Carter Offers Electronic Oil Pool Analyzer Free of Royalty to Industry

An electronic device known as the oil pool analyzer, which forecasts the future behavior of an oil field, in the interest of conservation, was dedicated May 2 to the oil industry by its developer, The Carter Oil Company.

The analyzer, offered "royalty free" to the API, has almost super-human talents since it can take the equations and statistics of technologists and develop in a few minutes the possible life history of an oil field, projecting its production possibilities 25 or more years in the future. The machine, developed by The Carter Oil Company, is the invention of Dr. W. A. Bruce, 35-year-old Carter physicist.

With the device, both analyses and predictions of reservoir pressure-production behavior can be made for most petroleum reservoirs in which water influx is an important factor. The electric robot, in fact, will solve some intricate problems which, Bruce says, almost are incapable of solution by mathematical means, coming up with answers to difficult problems in five to 10 minutes.

As reported by President O. C. Schorp, of Carter, this seems to be the robot's possible role in the petroleum world of the future:

It can be used as an important tool in determining what pressures should be sustained in an oil pool to get maximum efficiency and it can be utilized to compute the best rate of withdrawal from a pool to insure the greatest ultimate recovery; and, it can tell how much water or gas should be pumped back into the ground to build up pressures which would make the wells produce economically and profitably.

The basic theory of the analyzer is simple. Oil and water, under pressure in sand far underground, behave like electricity "under pressure," in condensors and resistors, Bruce said. The chief use of the analyzer is in guiding production engineers as they determine the rates of withdrawal of oil in comparatively new fields.

"If the robot says that too speedy production of oil from wells will hasten the 'end' of the field and force wells to go dry before they recover the maximum amount of oil possible, the rate of production may be changed in accordance with the analyzer's calculations," Bruce said.

Four years ago, the first model analyzer was developed by Bruce. He used information first discovered and reported by a French scientist in 1822, involving heat flow. In 1941, Bruce visited Columbia University where an electrical device had been developed to study the flow of heat. He correlated the principles as they applied to the study of oil production and the Carter analyzer is the result.

Senate Committee Approves Tidelands Measure; California Files Its Answer

Challenging the administration's contention that the tidelands legislation is designed to "interfere" with the authority of the Supreme Court to deal with the issue, the Senate Judiciary Committee last week, submitting a favorable report on the House-approved resolution relinquishing all federal claim to ownership of the off-shore oil lands, laid down the dictum that "Congress should not permit itself to be embarrassed in its consideration of legislation by the subsequent institution of judicial proceedings by another branch of the federal government.

The committee pointed out that the original proceeding was filed by the Department of Justice in California 60 days after the introduction of the resolutions to quiet title, and that the Supreme Court case was not filed until after the House had passed the measure.

Tracing the history of the federal claim and the reversal of position by former Secretary of the Interior Harold L. Ickes, who in 1933 denied an application for a drilling permit on lands off the California coast and in 1945 announced that he intended to grant such applications, the committee commented that "it is clear that the chief connection of oil with this resolution is that applications by private interests for oil-drilling permits furnished the first occasion in the history of the Nation for a claim that the states did not own lands under navigable waters." Over the period of a century, it pointed out, the Supreme Court, in 54 decisions, has held that the ownership of the lands lies in the states.

Supreme Court Speed

Meeting the administration's claim that the Supreme Court could dispose of the case quickly, the committee examined 26 cases in which it has taken original jurisdiction and found that it took an average of over nine years to decide them.

"It is not reasonable to assume that the Supreme Court will decide this, one of the most complicated of all cases of original jurisdiction, within its average period of nine years," it declared. "Also, if all a federal official needs to do to stop Congress from acting is to file a lawsuit, such suits will be filed every time the Congress takes up legislation which is not favored by any one of the federal government's hundreds of agencies.

"It is certainly unjust to allow the title to all lands under navigable waters to remain clouded for many years while the Supreme Court is deciding the fifty-fifth case of a series on this subject when the Congress can, and in good equity should, end all clouds by adopting this resolution.

"Another decision by the courts would not be any more effective in preventing later attacks on the states' titles than have been the others," the committee contended. "If the Supreme Court should reverse itself, unending litigation would result for probably half a century, for it would mean that the boundary of every parcel of land fronting on navigable waters in the whole nation would necessarily require judicial determination."

Finally, the committee said, "should the Supreme Court reverse itself, the result would be so catastrophic to the economy of the country resulting from the overthrow of long-established rules of property, that the Congress would as a matter of equity be forced to enact legislation having an object similar to that of House Joint Resolution 225."

Kenny Files Answer

A boiled-down answer to the government's complaint in the tideland's suit was filed with the Supreme Court by the State of California May 2 in conformity with the court's order to provide a "succinct statement," following a motion by the Department of Justice to dismiss the original 822-page answer as unduly lengthy and inclusive of irrelevant material.

Filed with the court by State Attorney General Robert W. Kenney, the statement paraphrased the arguments in the original answer and met the department's complaint over the length of the original brief with a charge that the government's complaint was so insufficient that it was impossible to ascertain the issues on which it rested its case.

Kenny cited ten specific "ambiguities" in the complaint, and asked for definite information on "what lands along the coast of California are claimed by plaintiff in this action, and particularly what is meant by the phrase 'ordinary low water mark,' as to whether the landward boundary of the lands claimed by the plaintiff is the line of ordinary low water mark as it existed in a state of nature on September 9, 1850, without regard to natural or artificial changes which have taken place in the coast line since that date."

The amended answer contended that the federal government never has been the owner in fee simple or otherwise of the lands or the minerals underlying California's coastal waters. Further, it was contended, the government has repeatedly asserted and acquiesced in the title of the several states to their submerged lands, and "is thereby precluded from asserting or claiming any right, title or interest adverse to the said title and ownership of the state of California and its grantees."

Elk Hills Naval Group

Naval officers concerned with the development of the Elk Hills petroluem reserve are shown above in a huddle during the recent visit to California of Commodore William G. Greenman (center), director of U. S. Naval Petroleum Reserves. Others shown are Captain H. P. Stolz, left, Navy's member on the Elk Hills operating committee, who is returning to civil life after serving throughout the war, and Captain V. H. Wilhelm, inspector of Naval Petroleum Reserves in California, who will assume the post left vacant by the retirement of Stolz.

New Louisiana Map Offered by Geological Group

A new production map of South Louisiana has been drafted by the South Louisiana Geological Society. The map shows locations of all producing fields and known salt domes, the cumulative production to January 1, 1946, estimated future reserves, number of producing wells and daily average production for each field, together with the age of the producing horizon for each field.

The maps are for sale at $2.50 per copy and may be ordered from W. R. Canada, South Louisiana Geological Society, P. O. Box 872, Lake Charles, La.

IPAA Calls for American Way of Life At Houston Meeting; OPA Is Attacked

Amid repeated warnings that a transition toward centralized government threatens the continuation of the American way of life, and that this condition change is the basic cause of the present ills of this country, including those of the independent oil producer, directors of the Independent Petroleum Association of America at a three-day meeting in Houston last week decided to continue and enlarge its campaign for restoration of traditional American principles.

Highly embittered at the treatment the industry has received from OPA, many accusations were hurled at the price agency which was charged with making mis-statements, with purposely misleading the public and with refusing to face facts. The directors decided that the first effort of the association would be to seek complete removal of petroleum and its products from government regulation, and that the second point would be to fight against importation of excessive quantities of foreign oil. Both of these steps were held essential to the maintenance of a strong, healthy and competitive domestic oil industry, which was termed as being highly vital to the protection of the consuming public and to the security of the nation.

Walter S. Hallanan, president of Plymouth Oil Company, Pittsburgh, told members of the IPAA that America had won the greatest war in history, but "we haven't yet won the war on the home front." He said that this country today is squarely faced with the issue of whether wartime governmental controls over industry and business are to be made permanent.

Free America Or Not?

The issue, Hallahan asserted, is not one on which men divide along partisan political lines. "It is an issue that transcends political parties, and comes down to the fundamental proposition of whether we are going to have a free America such as has given us the richest, most powerful and happiest nation on God's footstool or whether we are going to have a totalitarian system such as those which have brought power, wreck and ruin and chaos to every people who ever stupidly or cravenly sold their freedom for an unredeemed promise of security."

Hallanan charged that governmental agencies, seeking to retain their powers "for all time to come," have carried on at public expense "the most gigantic and monstrous propaganda campaign of fear this nation has ever witnessed." He declared that Chester Bowles and Paul Porter, his successor as head of OPA, were not chosen because they were economists but chose because they were "professional propagandists" in business life.

If we are to "stop this onslaught in time, we have got to make up our minds to fight" with all the sincerity and patriotic fervor that "we ever fought any other war," Halanan declared.

Extension of governmental controls also came in for sound denunciation from the association's president, Major B. A. Hardey, Shreveport. "I have definite misgiving about trends in government. I cannot help but feel we are confronted with an attempt to continue governmental controls from here on out."

Because of the continuation of unrealistic government controls, oil is still faced with many reconversion problems, declared Hardey. These controls are responsible for fastening problems on "this industry that have not been solved."

Oil Industry's Job

The job of the petroleum industry was outlined as follows by Hardey:

1. To properly serve the public consumer.

2. To so keep itself in condition to take care of the nation in times of emergency.

This cannot be done under controls, Hardey continued, so "our first job is to have lifted all unnecessary controls so we can get down to the peacetime job. This can best be done under the laws of supply and demand and not under artificial regulation."

The "safety of this nation is endangered," Hardey asserted, "unless the domestic oil industry is kept solvent, and this nation remains not dependent upon foreign oil sources. The only way this can be done is by paying a price that will keep the independent producer in business and actively seeking additional new oil supply sources."

During the three day meeting, directors of the association also heard Dr. Waldo Stephens, vice president of Stephens Petroleum Company, and Russell B. Brown, general counsel of IPAA, appeal to them to help preserve private enterprise and other traditional American principles.

"It will do you little good to get higher prices, adjustment of your taxes, or to properly conserve your crude reserves, unless this is done," Stephens warned. "Our fight is to save the American way of life."

Continuation of our free enterprise, the high development of our business and industrial programs, Stephens continued, demands a more active responsibility and participation on the part of the business leaders in national and world affairs.

"The issue for us today," said Brown, "is free government versus bureaucratic government. Free government means public policy planned and ordered by the elected representatives. We have gone a considerable distance along the other road. It is not too late to return to the full exercise of representative government. Legislative action will be required, for no agency has yet been known to decrease its scope. Unless the trend toward bureaucracy is checked, the position of the independent producers become futile.

Many others besides those who presented prepared addresses made similar comments from the assembly floor with respect to the challenge to the American form of government.

The OPA was singled out for special attack by most of the scheduled speakers. In addition many impromptu talks held that agency as being more responsible for the country's or industry's ills than any other government bureau.

Rabble Rousing Charged

Twice during the course of the meeting oil men appeared on the radio to denounce OPA, and explain how it was hampering the reconversion of the oil industry. It was repeatedly stressed that the supply of petroleum now was greater than the demand, that stocks of crude oil and motor fuel had increased sharply, and that OPA officials had publicly promised lifting of controls under such circumstances but now refused to do so. It was stated that the cost of petroleum products, with the exception of residual fuel oil, probably would not show much if any increase. Motor fuel is now selling below the current OPA ceiling price, it was pointed out.

Glenn H. McCarthy, independent operator of Houston, in a radio talk accused Economic Stabilizer Bowles and OPA Director Porter of enlisting the aid of "rabble rousers to foment their

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED May 4	April 27
Alabama	1,100	1,100
Arkansas	77,250	77,500
California	860,000	861,700
Colorado	27,150	25,700
Florida	250	100
Illinois	212,100	209,300
Indiana	19,500	19,250
Kansas	244,650	257,350
Kentucky	30,900	31,600
Louisiana	385,900	372,100
North Louisiana	85,950	85,300
South Louisiana	299,950	286,800
Michigan	45,000	46,600
Mississippi	57,050	55,200
Missouri	100	100
Montana	20,100	20,100
Nebraska	750	750
New Mexico	96,550	95,900
New York	13,650	13,450
Ohio	7,350	7,200
Oklahoma	363,700	367,150
Pennsylvania	37,250	36,650
Tennessee	35	35
Texas	2,131,900	2,054,600
Upper Gulf Coast	493,800	489,700
East Texas Field	388,800	372,000
Rest of Eastern Texas	145,200	139,700
Southwest Texas	334,900	326,500
West Texas	521,200	495,000
North Texas	165,000	158,700
Panhandle	83,000	82,000
West Virginia	7,750	7,650
Wyoming	113,600	113,900
Total United States	4,753,585	4,674,985

prediction of "chaos, poverty, social and economic ruin if OPA is curtailed."

"Nowhere," declared McCarthy, "do they present facts. Nowhere do they make a straightforward, honest appeal."

"It is going to be a hard battle to get out from under the control of OPA," declared H. J. Porter, president of the newly-formed Texas Producers and Royalty Owners Association, "and this can be accomplished only through concerted effort on the part of the oil men to bring about legislation."

He urged oil men to write their congressmen at once.

James V. Brown, petroleum analyst for the IPAA, and secretary of the National Crude Oil Advisory Committee, accused the OPA of refusing to consider replacement cost in setting price ceilings. He denied that the statute creating OPA forbid it to recognize replacement cost or any other data relevant to "generally fair and equitable" ceiling prices.

"The accounting standards set by OPA in crude petroleum surveys," Brown asserted, "are utterly unrealistic when considered in relation to the changes in operation conditions that have actually occurred. Bookkeeping profits in war-restricted periods are equally unrealistic."

Brown told directors of the association that a recent OPA crude petroleum cost survey disclosed that for 1944 the reporting producers lost 35 cents on each barrel produced, based on current replacement costs. The same producers, he said, reported "bookkeeping" profits indicating 35 cents a barrel. When allowance is made for the abnormalities resulting from wartime restrictions, and adverse conditions, the reported profit evaporates, he stated.

Requirements Group Continued

As part of its efforts to reduce government control of business, it was decided that the association's Crude Oil Requirements Committee would be continued. This committee had been organized during the war to study ways of meeting military needs, and was made up of representatives from some 20 different associations. There was some talk of disbanding the group, now that the war is over, but it was decided that the committee should be kept active since it afforded an excellent means of getting al the various oil trade associations together to handle problems of mutual interest. Representatives of a number of associations present at the IPAA meeting declared they would like to continue the cooperative work and that this unity of action would constitute the best means of solving the industry's problems, particularly with regard to government control.

The petroleum outlook for the next five years is most favorable, if certain basic factors received proper consideration, declared Minor S. Jameson, Jr., statistician for the association, who presented a five-year forecast of supply and demand. He pointed out that demand trends are definitely upward, and that the domestic oil supply can follow this same course if given an adequate price, a sound tax policy, a sound import policy, and if large refiners clarify their policies with respect to residual fuel oil needs.

"It is vitally important that proper industry and government policies be adopted on these matters," he warned, if there is to be a healthy domestic oil industry.

He forecast that total demand should rise from 5,150,000 barrels daily in 1946 to 5,750,000 barrels per day in 1950. Domestic crude production can and should gradually increase from approximately 4,600,000 barrels daily in 1946 to 5,130,000 barrels daily in 1950, Jameson asserted. This, he pointed out, would allow imports to be maintained at their normal ratio to demand, which would increase import rates from 230,000 barrels daily in 1946 to 260,000 barrels daily in 1950. Jameson's crude production figures included an average of 320,000 barrels of natural gasoline and benzol per day in 1946 and an average of 360,000 barrels of these products in 1950. Realization of this anticipated program depends, he said, on whether or not the domestic industry is stifled by unsound policies, for if provided with the proper working conditions the nation will develop adequate new reserves and productive capacity to keep pace with demand.

"Old Fight" Needed

Wirt Franklin, independent operator and first president of the association, told the directors that the "same fighting, crusading spirit that existed in the early 30's," must be reinstated in the association if the independent producer was to be protected from a flood of foreign oil.

"We now hear the same propaganda we heard after the last war," Franklin stated. "It is our job to counteract the statements, about this country no longer being able to produce sufficient oil to supply demand and that we should save our diminishing supply for future emergencies.

"The safety of this nation depends not upon foreign oil, but on the development within the continental United States of enough oil to meet needs in time of peace or war. We would be under the heel of the conqueror today if we were dependent upon foreign oil. We can all recall the fact that we could not even move oil from our own Gulf Coast to the Atlantic Seaboard during the early days of the war. So again, let us fight."

Howard Holmes, president of the American Association of Oil Well Drilling Contractors, told the members that reconversion in drilling meant better efficiency, because more and better tools and more and better men were not available. He discussed higher costs, which have been raised because of greater drill-depths and increased labor prices; estimating that labor costs now are 35 to 40 percent higher than in prewar, and that equipment costs are up about 15 percent.

To offset the trend toward higher costs he suggested the use of better cost accounting on the part of contractors, so that both the contractor and the operator would know his costs. Holmes also suggested that the operators might give consideration to the relatively new type of drilling contractor, which is cost plus a fixed fee, stating this was an incentive for contractors to get their work done as quickly as possible.

At the close of the three-day session, officials announced that the annual membership meeting of IPAA would be held in Fort Worth on October 28-30.

Mississippi Fuel Seeks Large Expansion Permit

An $11,574,000 expansion program which would increase the capacity of its Louisiana-Illinois system by 50 million cubic feet daily has been laid before the Federal Power Commission for approval by the Mississippi River Fuel Corporation.

Designed to give the system a capacity of 183 million cubic feet daily to meet increasing demands of both utility and industrial customers, the project would be initiated by September with a view to its completion in time to meet January and February peak requirements, the commission was told. Last winter, it reported, it was necessary to curtail industrial sales to protect domestic consumers.

The company plans to construct a series of partial loops in each section of its main line, requiring an aggregate of about 265 miles of 22-inch pipe, and proposes to increase the capacity of its eight compressor stations.

Present supplies are obtained largely from the Monroe field, under contracts running to 1951, but to protect itself the company has entered into a new contract with United Gas Pipe Line Company, for supplies from the Carthage field, Texas, up to Mississippi's full requirements, if necessary, over a 20-year period.

Panhandle-Eastern Asks Permit to Construct Line

FPC has scheduled a hearing for May 13 on any application of Panhandle-Eastern Pipe Line Company for authority to build 50 miles of 18-inch line between a new compressor station at Sunray and its existing Hansford, Texas, station and to erect the former station and add compressors at other stations in Texas, Kansas, Illinois and Indiana.

The commission consolidated the proceeding with the application of the Michigan-Wisconsin Pipe Line Company, filed September 24, last, to intervene in the case.

WAA Offers Pampa Lines

War Assets Administration this week invited bids for the purchase or lease of the 45-mile 12- and 22-inch natural gas pipe line built between Hutchison and Gray counties, Texas, to supply gas to four carbon black plants in the Pampa, Texas, area.

The line has a present capacity of 148 million cubic feet per day, but is susceptible of increase to 214 million cubic feet. It is being offered in its entirety, and proposals for partial purchase or lease will not be considered.

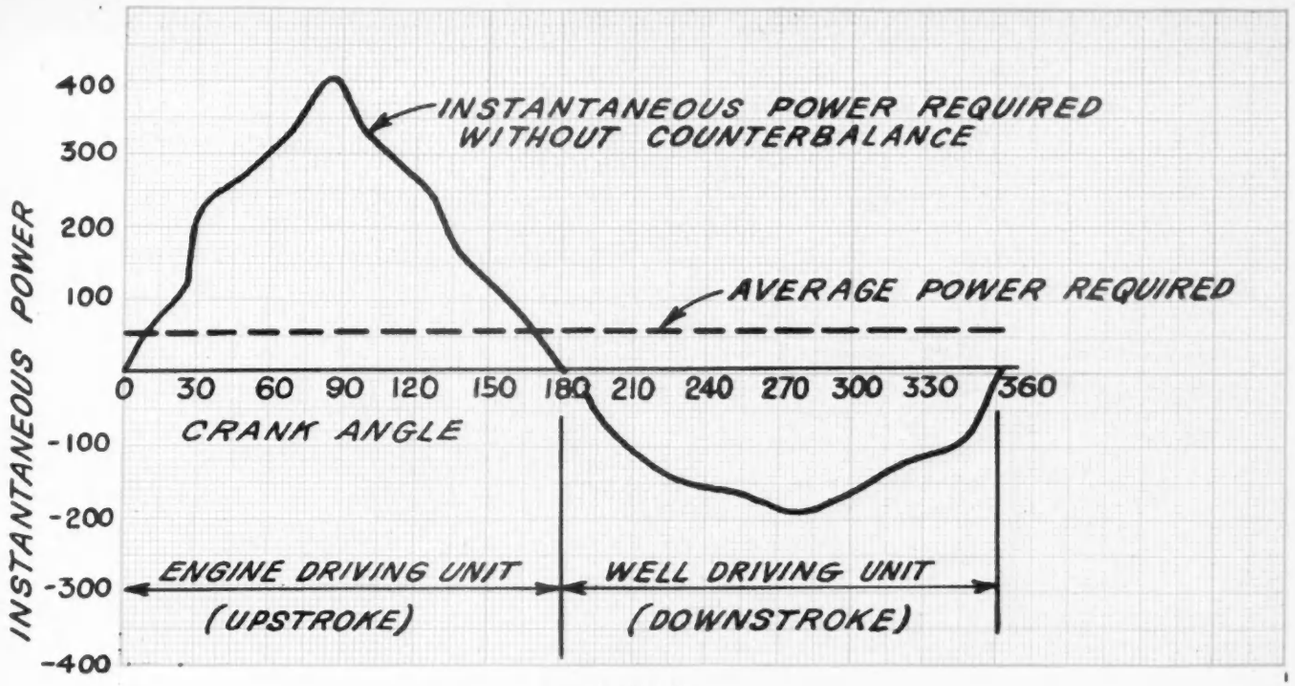


FIGURE 1

Oil Well Counterbalancing

By E. N. KEMLER
Head, Engineering Research Division, Southern Research Institute, Birmingham, Alabama

PROPER counterbalancing in oil well pumping produces two beneficial results. First, it reduces the size of the prime mover and transmission needed to drive the well, and second, it results in better equipment operation with resulting longer life and less trouble

From an equipment standpoint, oil well pumping is severe, since the power requirements go from zero to a maximum twice during one pumping cycle and if the well is not properly counterbalanced may go from a driving to a driven load. If no counterbalance were used on a pumping well the power curve required to drive the well would look as in Figure 1. On the upstroke of the pump the well would have to supply a high peak input power, but on the downstroke the well would tend to drive the surface equipment. Also shown in Figure 1 is the net average amount of power required. From this it can be seen that equipment to take care of the peaks must be much larger than that required for the average.

In order to better understand what this means insofar as equipment is concerned, reference will be made to the schematic diagram of a sucker rod pumping setup shown in Figure 2. Basically, the prime mover, whether it be a horizontal or vertical or single or multiple cylinder engine, drives the pumping unit or rig front through a drive usually consisting of a V or flat belt drive which in turn drives a chain or speed reducer or in older units another belt reduction. The final member of this drive whether it be a sprocket, gear or pulley, drives a crank which in turn actuates the pitman—walking beam setup.

When the prime mover is driving the well, all the equipment between the prime mover and the sucker rods carries the load imposed by the prime mover or the well. If the well requires instantaneously more power than the prime mover is supplying, the prime mover will slow down, giving up kinetic energy to supply the peak requirements of the well. If the prime mover is supplying more power than the well requires, the system will speed up.

Periodic checks of well counterbalancing will pay top dividends in keeping equipment in operation with minimum of failures

In order to keep the engine speed as nearly constant as possible, flywheels are supplied. The capacity of the flywheels on an engine to store energy depends on weight, diameter and speed. Expressed in terms of symbols the energy capacities of a flywheel will be

$$KE = C\,W\,D^2\,N^2$$

Where W is weight of flywheel
D is diameter of flywheel
N is speed of flywheel

C is in this case a constant which will depend on the style of flywheel and the engine used. This equation shows that as flywheel speed increases, the WD^2 value decreases for the same energy capacity. This is why high speed engines can get by with a small flywheel whereas slow speed engines must use large heavy flywheels.

When an instantaneous power load as shown in Figure 1 is imposed on the equipment, the load which it must carry will essentially be this peak, regardless of whether the engine slows down. An ideal solution of this load problem would be to place a flywheel on the crankshaft. Since the crankshaft speed is so slow, the size of flywheel required would be prohibitive and the only prac-

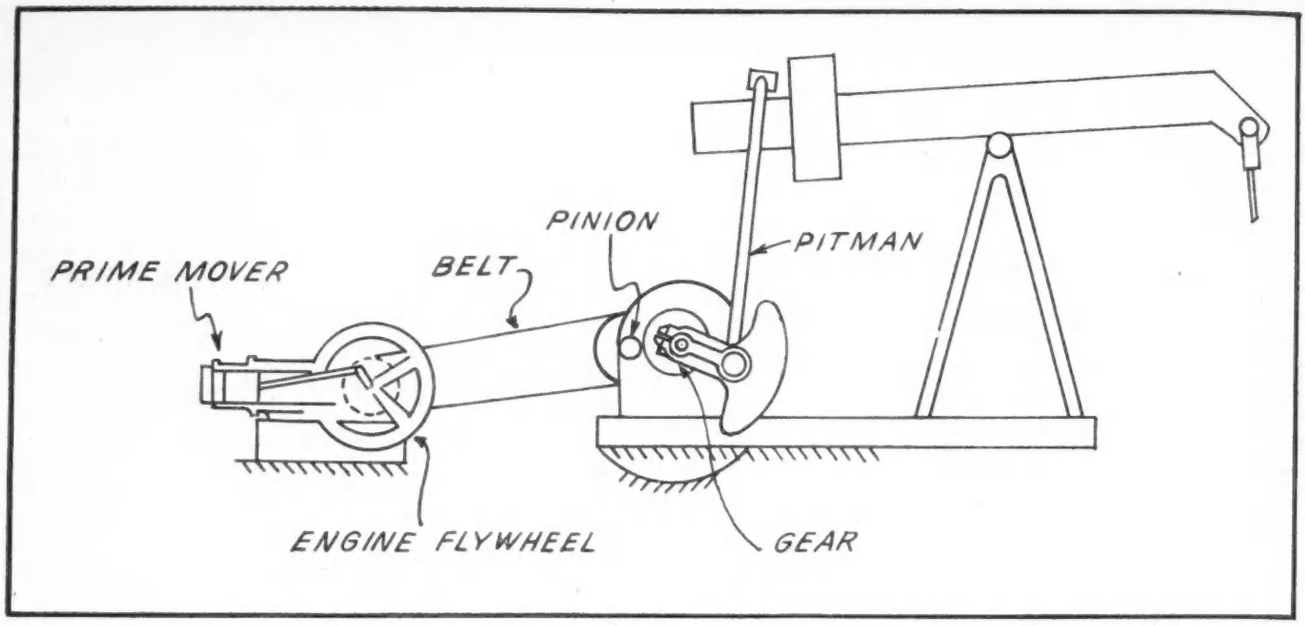


FIGURE 2

tical solution is to put it on the engine. These flywheels do not in any way affect the well's requirements but influence the performance of the prime mover.

Since the sucker rods stop and reverse direction twice each stroke, the power at these instants of reversal of direction becomes zero. This means that the best that can be done with counterbalance is to even out the load on the up and down strokes. Counterbalance can never make the power requirements of the well a constant. Aside from requiring a very high peak, the power requirement shown in Figure 1 is serious because it goes from driving to driven. The load on the transmission must therefore reverse itself during this type of cycle. If there is any slack in the belts, or backlash in the gears or chains, impact loads will be placed on the equipment. We know that such impact loads are at least twice as severe on equipment as the same magnitude of direct load. This type of loading must be avoided as it is very severe on belts, gears and clutches.

Counterbalance Torque

Figure 3 shows typical curves of polished rod torque, that is, the torque imposed on the drive when there is no counterbalance. The curve marked counterbalance torque shows the torque required to drive the counterbalance torque over the same pumping cycle. The size of the counterbalance torque will, of course, depend upon the amount of counterbalance used. The gear torque, as indicated on the diagram, is essentially the difference between polished rod torque and the counterbalance torque, the only other factor being the inertia present between the polished rod and the gear unit which is usually negligible.

The main portion of sucker rod loads is made up of the weight of the rods, the weight of the fluid carried by the pump on the upstroke, the dynamic load of the rods and oil, and friction. Since the rod load is always there, it is obvious that if it could be balanced out, the peak would be reduced and the tendency of the well to drive the prime mover would be reduced or eliminated. One obvious way to do this is to place an amount of weight on the back side of the walking beam equal to the weight of the rods. In early rig fronts this was not practical, since the old wooden beams and vertical sampson posts could not carry this load. In order to balance this load, guided concrete weights were suspended from the beam, either between the jack posts and sampson post or from a tail board. The grasshopper type of counterbalance was also used. These schemes are shown schematically in Figure 3. Since this type of counterbalancing generally requires too much space and weights, the rotary type of counterbalance as shown in Figure 4 was applied. When steel walking beams came into use, beam weights applied directly to the beam became possible. A conventional design using beam weights is as shown by Figure 5. Combinations of beam and rotary weights have been used.

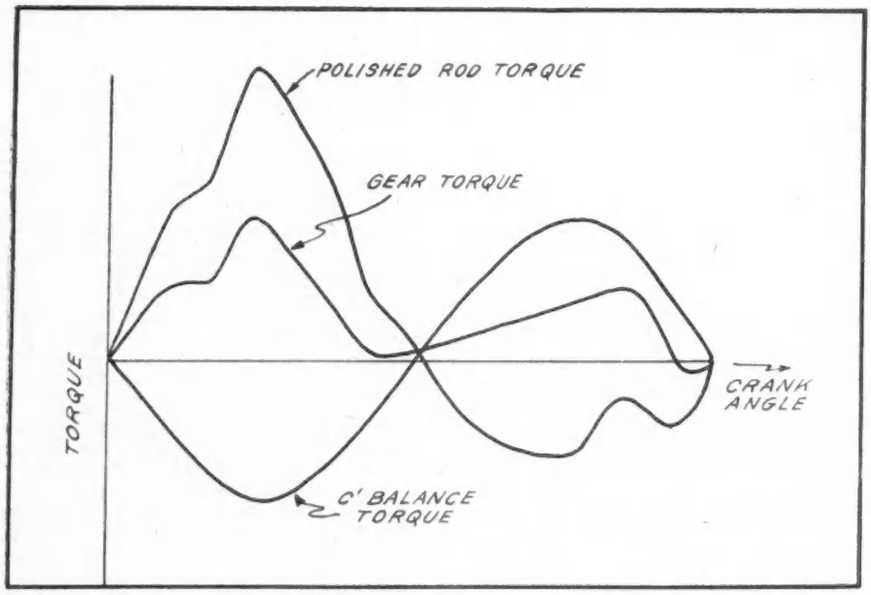


FIGURE 3

Checking Balance

The type of counterbalance to be used is of secondary importance. The first and most important factor is to counterbalance. The second is to counterbalance properly. The simplest method of counterbalancing engine driven wells is to use the clutch slipping method. When wells are very far out of counterbalance some indication can often be obtained by observing the operation of the unit. If it tends to slow up on the upstroke of the pump and speed up on the downstroke the unit is under-counterbalanced. When the unit speeds up on the upstroke and slows down on the downstroke it is over-counterbalanced. This method of checking balance usually works only if the observer has considerable experience and if the well is far out of balance. The engine must also fire regularly in case of slow speed

engines and must run uniformly in case of multi-cylinder engines. Hunting of the engine can in many cases obscure counterbalance effect.

More Sensitive Method

A much more sensitive and very practical method of checking balances as mentioned is by slipping the clutch. This method has been outlined by D. O. Barrett in API Bulletin 226, page 200. This method uses the clutch which is a torque or power transmitting device to check, in effect the amount of torque which is required to keep the well in operation. The procedure outlined by Barrett is as follows:

1. Set the throttle on the engine at a fixed position.
2. Release the clutch very slowly to the point where it will pull the peak load. Any further release will result in the clutch slipping on some part of the cycle. If the well is properly balanced, the clutch will slip equally on the up and downstroke.
3. Upon further release of the clutch a well out of balance will slow up and slip on the side which is under-balanced, and speed up on the side which is over-balanced. A little experience in developing a technique will soon show whether the well is noticeably out of balance.

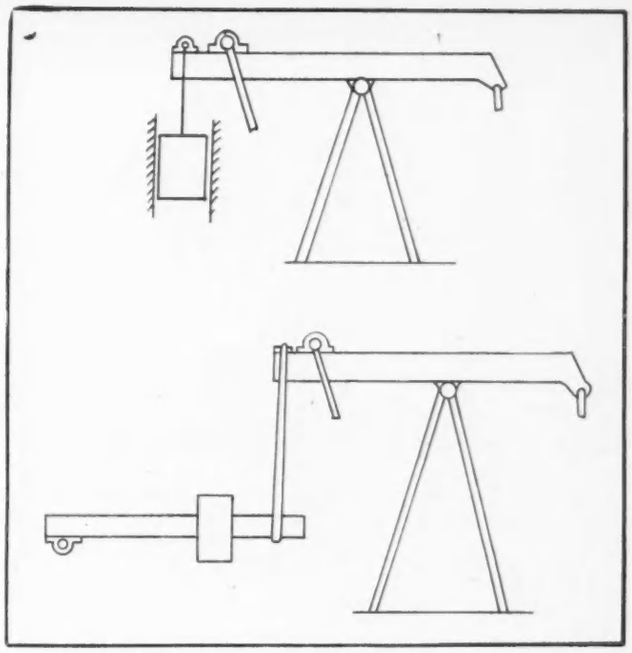


FIGURE 4
Concrete weight and grasshopper counterbalance.

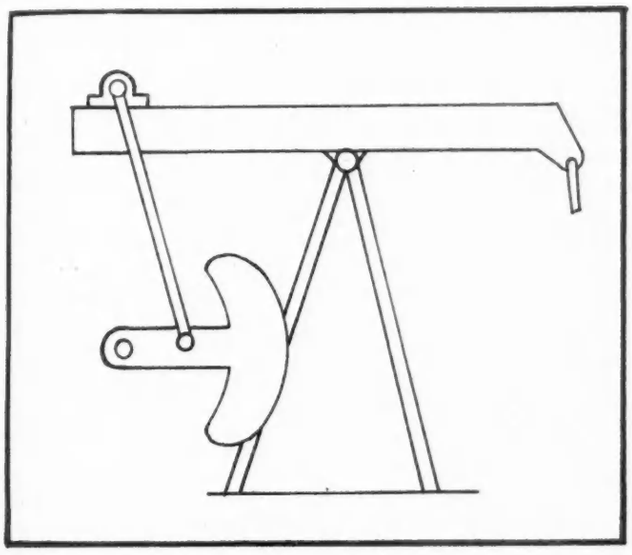


FIGURE 5
Rotary counterbalance.

No Instruments Needed

One of the main advantages of this method of checking counterbalance is that it requires no instruments and little previous experience or preparation. It is one which can be applied to routine checking of counterbalance and which can be used equally well by field men or engineers. This method of checking counterbalance basically checks the peak torque and if the well is properly counterbalanced by this method it will indicate that the peak torque is so balanced.

While dynamometer cars can also be used for checking counterbalance, they present some difficulty, particularly when the up and down stroke loads do not reach a maximum and minimum respectively at the middle of the stroke. The clutch slipping method can usually be applied and gives sufficiently reliable results. Another index of the degree of balance can be obtained by watching the belts for increase of deflection on the slack side on the up and downstrokes.

Value of Inspection

As indicated previously, proper counterbalancing is importnat both from the standpoint of keeping new equipment size down and keeping existing equipment in operation with a minimum of failures. There is no other single thing which will pay such good dividends as periodic checking of well counterbalance. Well counterbalance should be regularly checked every six months and after any change in operating conditions which may include sucker rod, pump, stroke or speed change.

Kansas Association Elects

At the annual meeting of the Kansas Independent Oil and Gas Association in Wichita, W. H. Bird was elected president; Lloyd R. Pickrell, E. B. Shawver, John M. Denman and J. B. Hinkle were elected vice presidents, and A. Leon Derby was elected secretary-treasurer.

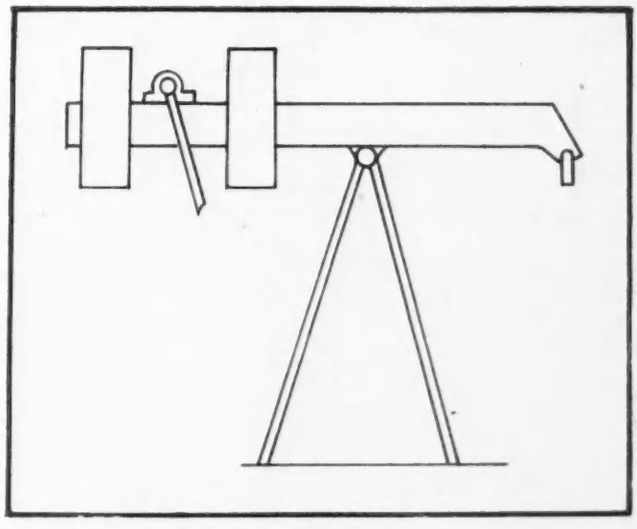
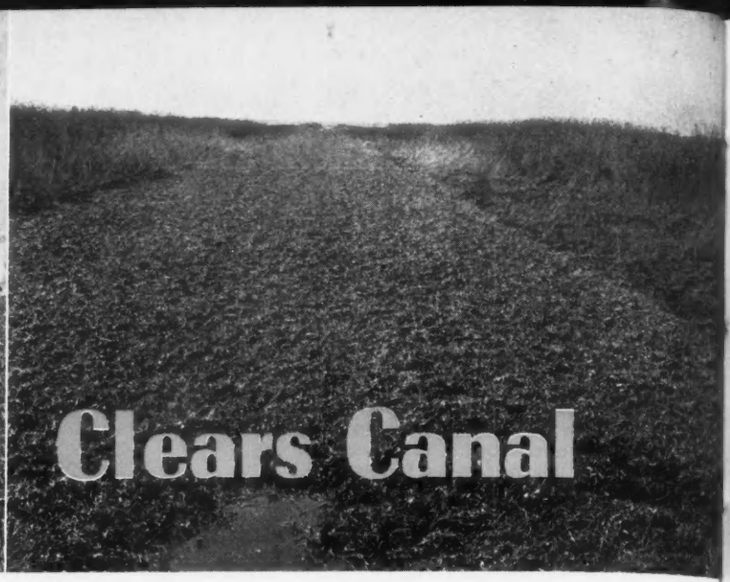


FIGURE 6
Beam counterbalance.

Lily Conveyor Clears Canal



The California Company's lily-conveyor is placed on a small barge which is pushed into the canals by an ordinary fishing lugger. The device is mounted on skids and is easily removed from the barge when not in use. Concrete-filled drums on the barge deck counterbalance the weight of the conveyor boom which extends out over the canal bank.

Overnight, canals may fill with water hyacinths which drift with the wind and tide, making travel by boat an impossibility. Hyancinths, imported because of their beauty, now present a serious navigational problem.

By GORDON B. NICHOLSON, Staff Writer

WITH construction of a lily-conveyor for removing water hyacinths from navigable canals and bayous in the Barataria field of Jefferson Parish, Louisiana, The California Company uncovered an economical and effective method of clearing waterways of obstructions which previously had sometimes blocked the only means of access to rigs and other field installations. Made almost entirely of scrap or salvaged materials at low cost, the conveyor ruptures the solid growths of lilies and lifts the vegetation from the water for deposit on the banks along the sides of the canals.

Water hyacinths, once considered one of nature's most beautiful marine plants and for that reason imported to the United States, have cost the State of Louisiana and the oil companies operating in South Louisiana oil fields countless thousands of dollars by blocking waterways which furnish the sole access into many areas. Commerce, fishermen, and trappers alike have suffered in this region where travel by boat is the only means of transportation, and the plant is also detrimental to wild life and public health. Attempts to force boats through the dense growths often ensnares the screws in a mass of twisted stems which has damaged propellers and defied penetration.

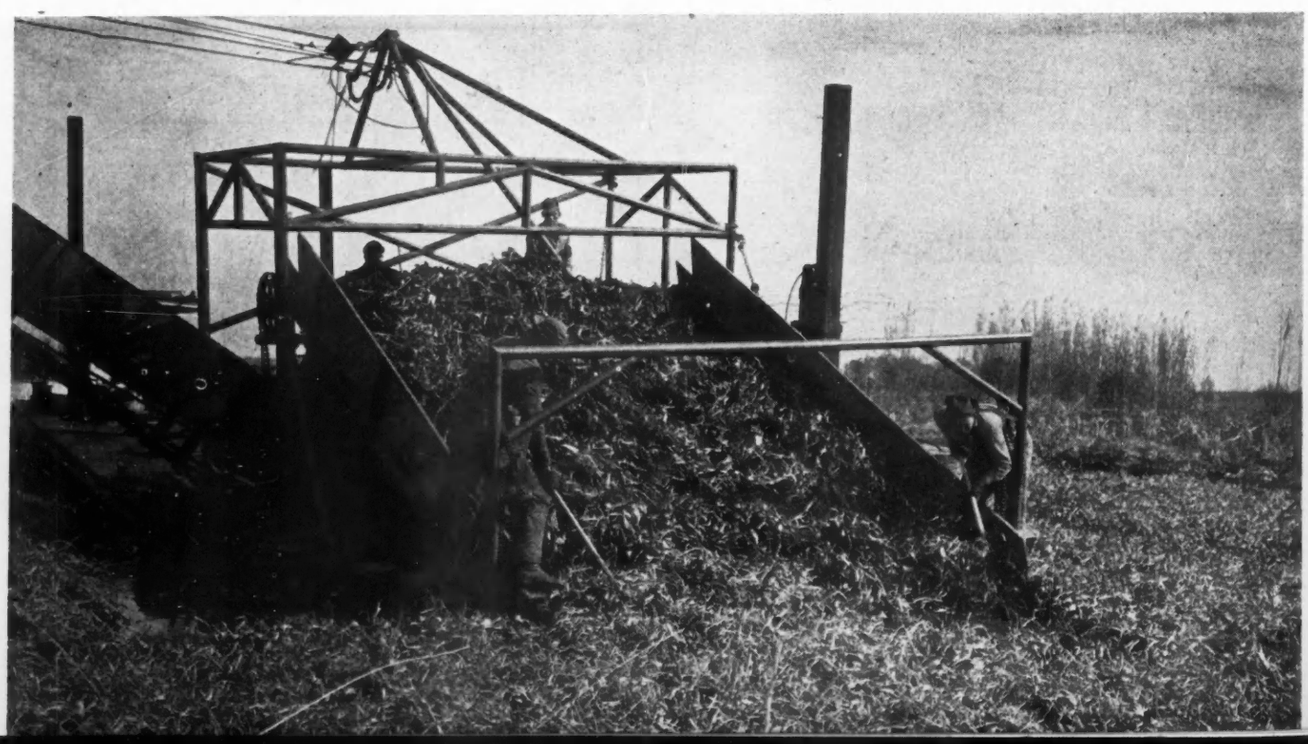
All-Year Problem

Hyacinths grow on the surface of the water, and assemble in unified masses of floating vegetation which spreads out and usually covers the canals from bank to bank. During the spring and summer months, lilies are green and in full bloom, bearing delicate purple flowers, but even after the arrival of cold weather, the plants continue to float in closely associated groups and thus present a year-round problem. Drifting with the tide and winds, the hyacinths sometimes enter a canal which was previously free of obstructions, blocking the waterway leading into an oil field.

Removal of lilies requires special equipment. The state maintains service on the public canals, but responsibility for cleaning private canals rests upon the owners of the canals, including oil companies who dredge canals into their properties in the various fields. Almost all oil companies having properties in the marshland sections of Louisiana are faced with the problem of lily disposal for canal maintenance, and only a few satisfactory methods have developed to keep canals open. Arrangements are often made with dredging contractors for removal of lilies with dredges or other large equipment, which is obviously an expensive undertaking, costing 20 to 30 dollars hourly and demanding almost continual attention.

The California Company's lily-conveyor is designed for placing on the forward deck of a barge which is pushed ahead of a fishing lugger into a

As the conveyor advances into a canal, lillies are lifted from the water by spikes made of short sections of sucker rod. Carried to the top of the ramp, the plants are dropped into a bin for transfer to a second conveyor which conducts the lillies over the canal banks.



canal blocked by hyacinths, picking up lilies as it advances, or breaking up matted masses of plants to be lifted later. A skid-mounted and unitized device consisting of two separate conveyors is used, the first dipping into the water ahead of the barge, lifting lilies from the water, and the other conducting them to the end of a boom extending outward from the starboard side, dropping cuttings on the bank and out of reach of high water.

The forward conveyor operates on a ramp 12 feet wide and made of steel plate, with guides extending from top to bottom along both sides to prevent loss of lilies. The guides are also made of steel plating and rise about 14 inches above the face of the ramp. The conveyor consists of three rotary chains running longitudinally around the plating of the ramp, with horizontal cross ties made of angle iron welded to the chains and spaced at intervals of 24 inches. Welded to the angle iron cross members are numerous short sections of sucker rod four to six inches long and spaced ten inches apart, resembling blunt spikes which dig under the lilies as the chains rotate.

Lillies reaching the end of the side-boom conveyor are deposited on the canal banks out of reach of high water.

Gasoline Powered

The large conveyor is motivated by a gasoline engine with adjustable speed controls, connected by chain drive to a sprocket operating the conveyor. Height of the ramp at the elevated end is about seven feet above the barge deck, and lilies carried to the top are dropped into a bin. Elevation of the canal end of the conveyor is adjustable by means of a chain hoist.

The side-boom conveyor extends about 16 feet to the starboard side of the barge, with an adjustable ramp also made of steel plating with high guides along both sides. The conveyor is about three feet wide, and consists of an endless belt which extends from the level floor of the receiving bin and outward to the end of the boom. The belt is motivated by a gasoline engine connected by chain to a sprocket, with speed regulated by means of a transmission system to synchronize with the speed of the forward conveyor. Normal elevation of the end of the boom is about 10 or 12 feet above the banks of the canals, and height is regulated with a hand winch. On the port side of the barge, steel drums filled with concrete are placed as counterbalances to compensate for the weight of the boom extending over the opposite side of the barge.

The complete conveyor is mounted on substantial skids constructed of four-inch drill pipe, and superstructure for the hoists and booms is made of two-inch tubing. All materials and equipment used in building the conveyor are used or salvaged with the exception of the sprockets and some new chains. Plating for both the ramps and the guides was formerly the walls of steel mud tanks.

In operation, the lily-conveyor barge is pushed slowly into the congested channels by the fishing lugger at its stern, with the forward ramp lowered below the surface of the water, and the chain in motion. Upon contact with lilies, the plants are broken off and, supported by the short rods, are lifted from the water and conducted to the top of the ramp. Falling behind the ramp into the bin, the lilies enter a level section through which the endless belt of the boom-conveyor moves. The belt carries the lilies to the top of the boom where they are dropped to the canal bank.

Flexibility of motion is provided by the maneuverable lugger, and when difficulty in making progress is encountered, the barge is reversed for another attempt to penetrate the same area or into a different channel. Often the initial run of the barge into a mass of the plants only loosens the close formation of the lilies, with subsequent runs made for lifting the hyacinths on the ramp. To facilitate removing lilies from the water, two crew men, one standing on each side of the ramp, are equipped with rakes or hoes to scoop the plants into the conveyor to assure maximum recovery. Often, snakes, alligators, and other forms of marine life of the region are picked up with the lilies. Operation of the conveyor ordinarily requires the services of a crew of three men, including an operator and two men to assist in gathering the lilies on the conveyor, and a driver for the lugger is also needed. When not in service for lily removal, the conveyor is lifted intact from the barge deck by means of a hoist to release the barge for other activities, at which time the concrete-filled drums for counterbalances are also removed.

Up to 1000 feet of canal daily have been liberated from the tenacious grip of hyacinths by the lily-conveyor. Designed and constructed by The California Company, the conveyor represents an economy in canal maintenance, and is estimated to have paid for itself within a week or two after being placed in service.

The forward conveyor consists of an adjustable steel ramp, with moving portions including three rotary chains connected by angle iron which has spikes made of short joints of sucker rod. As the chains move, the spikes dig under the lillies, lifting them from the water.

Effective Management

Part 3

Personnel Relations

By G. M. FITZGERALD

Card, Fitzgerald & Leghorn, Management Consultants—Engineers

GENERALLY the most serious problem in today's business world is the so-called labor problem. Discussion of the problem usually centers around management-employe relations. The very emphasis placed upon the two groups in management-employe relations tends to make the separation more distinct and definite. Yet who can determine fairly who comprises the two groups?

In a large metal working plant in the East a problem of employe unrest became apparent to the company's president. Not certain of the nature of the problem, the president had an independent personnel survey made. The consultant found in talking to the workers that there was considerable employe resentment about several seemingly minor items. He approached the general foreman about the items. The general foreman's reply was "Yes, I know the boys don't like that, but I can't get the management to make a decision, so I just have to stand pat." To the consultant's surprise both the superintendent and the plant manager also referred to their waiting for management's decision. Finally, the controller of the company, who answered only to the president, was questioned. His answer was nearly identical to the foreman's. The entire problem then became clear. Management was one man.

Further investigation of this plant revealed the same pattern found in so many rapidly expanded businesses of today. Some five years ago the plant was rather small. The president knew every worker and had time to occasionally chat with the men. Then a period of expansion began, the personnel increased, new levels of organization were created, and the president receded further and further from the employes. Business trips and many outside activities took him away from the plant for considerable periods. He had made no provisions to maintain any semblance of employe relations. Yet he was surprised and hurt to find the "old company spirit" had disappeared and most of his employes were strangers. This same situation has occurred in every type of business.

The matter of employe relations is not a "labor" problem but rather a problem of organization. Every business—insurance, banking, refining, drilling contractor, oil producing, manufacturing, maintains a technical staff to improve and further the operating end of the business. Of equal importance in any organization are the provisions for improving and furthering the employe relations end of the business.

Most companies today maintain a personnel office. Too often this office is nothing more than a "hiring office" which handles routine personnel records. In a typical company the chief engineer is given great latitude in his position and able to make important decisions of his own. The personnel manager in the same company may occupy a position little better than a clerk and unable to make even minor decisions without further approval. The sooner it is realized that handling people is as important and requires as much special knowledge as handling "things," the sooner the "labor" problem will be controlled.

The factor that has most impeded the progress of personnel management has been the too easy generalization mentioned previously as the management-employe problem. Personnel work has too long been restricted to the "worker" level of the business. A personnel program to be effective must be made on a company-wide level. It may surprise some general managers that not infrequently employe unrest has been traced as coming from the management level of the company. Low morale among the department heads is always sure to seep down and permeate the entire organization. This was exemplified during the war by a large national concern whose labor troubles were on the front page of every newspaper. This company's turnover in the executive level ran as high as 50 percent in one year, which gives a good clue to the company's difficulties in the worker level.

It is well worth every top executive's time to review the personnel policies and the application of a personnel program within his company. The personnel work of any organization is the responsibility of every officer and executive of the company. Once the major policies are formulated, each department head and foreman becomes in a sense a personnel manager. Obviously, it is essential that the policies be given uniform application and that each supervision have a common source of advice and counsel in dealing with subordinates. Thus the need for a personnel man, part time in a small company and full time in a larger company. In either case the personnel function should be delegated to an executive of high standing in the company. Even in companies of 150 employes this function has been found important enough to warrant a full-time executive.

"Labor" problem becomes less troublesome when it is realized that handling people is as important as the handling of "things"

The personnel man should be made responsible for the establishment and maintenance of all personnel records, all selections, transfer and promoting of employes in cooperation with departmental heads and the responsibility of maintaining all the company's personnel policies and procedures.

A personnel program to be successful must be backed with clear-cut written policies covering the points of major importance. This is most commonly and successfully accomplished through an employe handbook given to each new employe. Before such a book is distributed, however, it is wise to make positive that the entire supervisory force is well indoctrinated in the policies and the thinking behind them.

Choosing the Employe

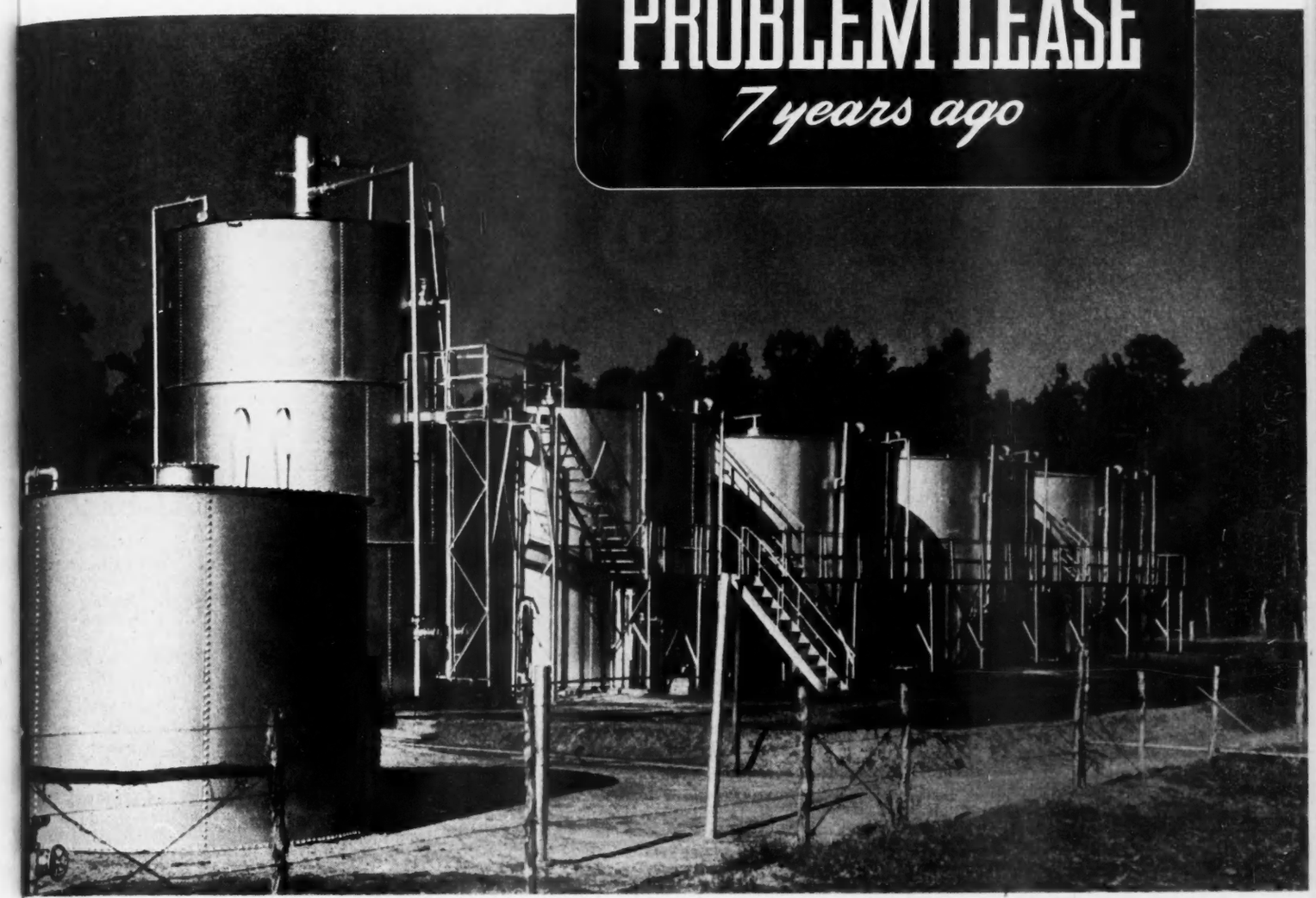
Successful employe relations begin with the intelligent selection of every new employe. The process of selection usually centers around the employment interview. The first interview conducted in a relaxed, friendly atmosphere will enable careful, intelligent selections. If the applicant is hired he is off to a good start with the company. If the applicant is not hired, he leaves feeling he has been treated fairly. Some companies have suffered poor public relations because of their high-handed way of turning down job applicants. Preemployment tests for specific trades, aptitudes, or knowledge have been receiving much attention. Their extensive use in the Army and Navy training programs were felt justified in developing certain types of physical and mental requirements.

Any firm will find it profitable to follow a definite indoctrination plan. Every employe placed on the payroll deserves the courtesy of being person-

this was a

"PROBLEM LEASE"

7 years ago



.... but PARKERSBURG engineers and tanks solved it

Parkersburg engineers and tanks are a combination producers learned long ago to depend on to solve their unusual lease storage problems. And this particular lease in in the Conroe, Texas, field, was no exception. Heat, salt, acids and chemicals were causing the original gun barrel packing to deteriorate. Parkersburg Tanks were moved into the field and Parkersburg engineers followed to complete the job of permanently solving the storage problem by designing a neoprene packing which was adopted as standard by Parkersburg. Now, . . . seven years later . . . and for time to come . . . the problem remains solved.

Hundreds of other quality-minded producers who know from long experience that the best time to solve a lease storage problem is before it arises, solve them by specifying Parkersburg Bolted Steel Tanks. The quality and workmanship assures owners they can get them on the lease and forget storage problems . . . permanently. Parkersburg dependability just can't be matched. And Parkersburg Engineers are available for consultation on your unusual jobs. Call your Parkersburg representative. He'll be glad to help with any of your storage problems.

THE PARKERSBURG RIG & REEL CO.

PARKERSBURG & OCS PRODUCTS
GENERAL OFFICES, PARKERSBURG, W. VA
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PARKERSBURG

aly introduced to his immediate supervisor. The supervisor will in turn introduce the new employe to those with whom he will work and show him around the work place. Then the new employe is ready to be told and shown the duties of the job and what is expected of the job. This seems so simple it hardly appears worth mentioning, except that many new employes are still led to their desk or work bench, told vaguely what they are to do and left to figure it out for themselves. The time lost in hunting materials, learning the job, and the consequent errors in work are reflected directly in increased labor cost.

Job security becomes an important factor once an employe is on the payroll. In theory, it has always been held that if the employer pays the accepted full wage, the employe should make provisions for sickness, accidents and old age. It just doesn't work out that way. The uncertainties and fluctuating requirements of every day life make long range planning difficult for most employes. Employe security plans include group life insurance, hospitalization, credit unions, dismissal wages and pension plans.

Group insurance enables employes to purchase protection usually at a lower cost than they could individually purchase it. Group insurance is an old and widely established practice. Group hospitalization is a more recent development but becoming rapidly accepted throughout the country. Credit unions have been successfully established in every type of business. Many employers give the credit unions free desk space and company time on which to transact business.

Dismissal wages have been receiving considerable attention recently. They have been observed in many recent union contracts as a new clause inserted by the union representative. Dismissal wage is a sum of money paid in addition to the regular compensation earned by employes dismissed by the company. Such additional pay is usually specified only upon company layoff. The general theory is that such a sum will aid the employe in seeking new employment and tide the employe over until his unemployment compensation comes due. Few companies in recent years have been able to build up any reserves that would make such a plan feasible.

Pension Plans

A pension plan is a serious obligation and deserves considered judgment before adoption. In competitive business a firm must necessarily restrict pension payments to those employes that have spent most of their lives in the firm's service. Even with this limitation, the cost of the program is heavy. Many firms hastily adopted pension plans during the recent war years. These plans were based on wartime earnings. Already the Internal Revenue Department has received a large number of applications seeking to revoke recently established pension funds.

Employe safety and health, unfortunately, have not always been considered important by employers. Even though workmen's compensation laws have been adopted by nearly all states, many employers are not personally concerned with safety in their own business. There are several sound reasons why they should. First, it is an employer's social and moral obligation to make his concern a safe place to work. This extends not only to factories but to offices as well. It is surprising the extent of disabling accidents that occur in offices. Safe working conditions undoubtedly increase morale.

Secondly, it pays a concern directly in dollars and cents to protect its employes. Every accident costs money; also, it has been conclusively proven that safety and production go hand in hand. An improved safety record will result in increased production.

Recreational Programs

Employe recreational programs properly organized and administered are beneficial. They are partially helpful where it is desired to develop a "company spirit." A common mistake in such activities is to cater to one group; the other employes eventually resent the time and effort given by the company for the favored employes. In all cases employe recreational projects should begin at the employes' desire, not management's wishes.

Working conditions must be considered in any employe relations program. Several independent surveys have proved that working conditions are generally a minor condition in the employe's appraisal of his job. Extreme conditions do warrant attention. One plant manager refused to heat his plant on cold days. He felt that "the colder they get the faster they work." The employes complained of this condition but did not resent it too greatly. This was due to the fact that whenever the manager turned his back, the employes retreated to the heated wash room. The manager lost many more dollars in labor than the heat would have cost.

Personnel Policies

To this point employe relations have been outlined in terms of general personnel policies. It is here that some business executives find themselves puzzled. They provide good policies to the employes as a group, but where they fail is that they do not apply the policies to the employe as an individual. This can only be done through an open pipe line between management and the employe that *works both ways.*

Management may roughly be defined as the administrative and disciplinary group. A supervisor's job in the modern business world is not an easy one. He must balance the required rules, regulations, and cold logical facts of the business with the human application of such facts. Many supervisors down the line—the actual link between the employe and management — have been sadly neglected. They have not been properly trained and the top management has not kept them abreast of the latest management thinking. Consequently, it is paradoxicaly the lower strata of management that can often cause employe discontent. This is brought about through misunderstanding, confusion and complaints directed at the "front office." Thus, top management must decide who is going to represent them and then train their representative for the job.

To date, there is no law against two men sitting down and having a straight honest talk concerning their mutual problem. Intelligently used, this is the key to improved employer-employe relations and high employe morale. There are department heads who have had employes working for them for many years who have yet to sit down and have a real man-to-man talk. Again it is the case of management taking the initiative. Many a general manager of a plant will say: "My office is an open door to any employe." Yet it is difficult to believe that they really think the employes will come in for a talk. Of course, the "griper" or trouble maker will. But what about the loyal, uncomplaining employe who has a problem to discuss?

Employe Appraisal

The best known means for the management to get together with each employe on a planned basis is through some type of employe appraisal or employe service review. This method of periodically "talking things over" will do much toward closing any gap that might exist between employes and management. The appraisal or review should be developed to fit the particular company in which it will be used. In general, the review should consider the following factors:

Quality of Work. This factor considers the frequency of errors and general accuracy of work accomplished.

Quantity of Work. The actual quantity or volume of work produced regardless of errors should be reviewed.

Job Knowledge. Considers the employe's present knowledge of the job gained through experience and training.

Initiative. Resourcefulness in handling assignments and ability to do jobs without detailed instruction.

Attitude. The employe's attitude toward the company, his supervisor and fellow workers.

Dependability. The degree of reliability in following orders and completing tasks. This measures the confidence placed in the employe doing the job on time and correctly.

Personality. The employe's personality in relation to its effect on others should be considered.

Each factor may be broken down into degrees and the employe considered and placed in the degree that best fits his particular work. For example, quality of work may be considered in five degrees:

First degree: Rarely makes errors; accomplishes excellent job.

Second degree: Seldom makes errors; produces good work.

Third degree: Occasionally makes errors; work usually satisfactory.

Fourth degree: Frequently makes errors; work often unsatisfactory.

Fifth degree: Consistently makes errors; work usually unsatisfactory.

Some review plans place a point value on each degree of each factor and measure the relative progress of an employe through the increase or decrease of points. There are several important points to consider in the installation of such a plan.

1. The employe should be reviewed in relation to the particular job he is performing, and in relation to his place in the department's organization.

2. Every employe must be reviewed by two supervisors.

3. The review shall be carried through to cover all employes right up to top management.

4. The review shall be conducted at

■ CONTINUED ON PAGE 30

Trends in Processing Gas Condensate Reservoirs

By FRANK H. DOTTERWEICH, Head, Department of Engineering,
Texas College of Arts and Industries, Kingsville, Texas, and
E. O. BENNETT, Petroleum Consultant, Houston

THE rapidly increasing number of gas markets being developed in high pressure natural gas pools capable of producing condensate in economically commercial quantities dictate that attention be directed to the actual loss of light hydrocarbon liquid fractions by retrograde condensation. This is to permit a better understanding of conventional cycling policies, growing out of the acceptance of cycling as a conservation measure, in the absence of a gas market, when available field and laboratory data are investigated.

The rapid strides in gas technology, which received considerable impetus during the recent war, now make available to the petroleum industry many valuable processes by which greater subsurface and surface economics may be effected in the processing of this nation's ever-increasing number of high pressure natural gas condensate fields.

In this paper the authors suggest a tentative method to better evaluate retrograde losses occurring in condensate reservoirs and suggest possible trends which may make available to postwar industry a greater quantity of the lighter hydrocarbon fractions by effecting greater economies in the extraction of these fractions from nature's reservoirs.

Retrograde Condensation

During the past ten years many areas have been discovered, particularly in the South Texas and Gulf Coast districts, in which the hydrocarbons, in most cases, exist entirely in the vapor phase in the formation, but when produced will partially condense upon reduction in pressure or temperature, or both. This phenomenon, termed retrograde condensation, is observed in the so-called gas-distillate or preferably gas-condensate fields. The phenomenon is now well known and generally understood and will not be discussed in detail in this paper.

As deeper drilling is conducted in the areas above mentioned, it is believed that proportionally more and more pools of the gas-condensate type will be discovered and the condensate recovery phase of the industry will become correspondingly more important as time goes on.

"Cycling" was first inaugurated on a commercial scale about 1938 for the purpose of preventing precipitation and loss of liquids in gas reservoirs and for the prevention of waste of the by-product gas. In natural gas cycling the by-product, or residue gas, is compressed and injected into the same reservoir from which it was produced to maintain pressure and to cause unprocessed or wet gas to be moved to producing wells for delivery to the recovery plants.

In the absence of a commercial gas market, natural gas cycling was accepted, in many instances, regardless of the recoverable liquid of the gas. In certain cases the low recoverable content of the gas processed by cycling methods may be questioned from a conservation viewpoint, when it is observed that modern petro-chem processes make possible the conversion of the lighter hydrocarbon gases into valuable liquid hydrocarbon fractions with surprising over-all conversion efficiencies, a discussion of which is given elsewhere in this paper.

As the cycling phase of the petroleum industry grew and progressed, and improved methods of long-distant transmission of natural gas brought additional gas markets to the nation's gas-condensate fields, many questions have arisen as to the economic feasibility of cycling low gallons per thousand cubic feet gas-condensate reservoirs, in the absence of an effective water drive, to maintain pressures. Conservation commission rules and regulations and the protection of correlative rights also complicate the problem.

Flash Separation

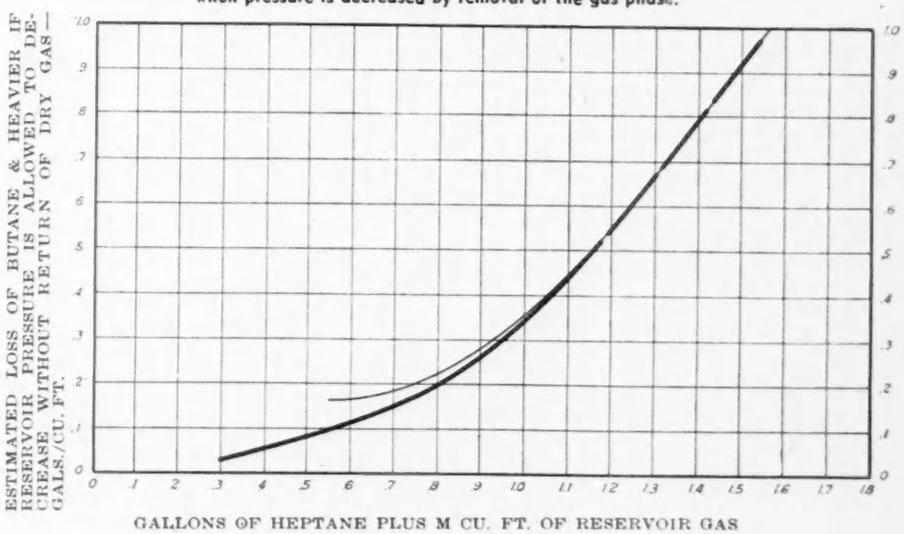
In determining the effect of retrograde condensation in single phase reservoirs, two methods of investigation under isothermal conditions (constant reservoir temperature) have been used. When the pressure on a hydrocarbon system is reduced by expanding the volume of the container, the term "flash" separation applies, and all the original components of the hydrocarbon systems are retained throughout the test. Should the pressure on such a system be reduced by withdrawing gas from a constant volume container, the term "differential" separation applies. In both cases the amount of liquid produced is observed and reported on the conventional retrograde curves.

Two types of apparatus have been developed, in conducting retrograde condensation tests, and both should give essentially the same results when properly operated, and when truly representative samples of reservoir fluid are available. Since the United States Bureau of Mines method, in which continuous sampling and analysis in the field is used, the authors believe this procedure well predicts actual reservoir conditions (laboratory samples supplement field analysis) as well as can be reflected from laboratory and field data. A paper read at this annual meeting ably set forth the numerous problems in connection with continuous sampling. Recognition of the Bureau of Mines methods, and the excellent work of its personnel in connection with the cycling industry, is hereby accorded. Some of the work done by the Bureau technicians has been studied, analyzed and used in this discussion.

It now appears desirable to briefly state the circumstances which led to the

FIGURE 1

Tentative method for estimating the maximum loss of liquid hydrocarbons in condensate reservoirs when pressure is decreased by removal of the gas phase.


ESTIMATED LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS — GALS./CU. FT.
0
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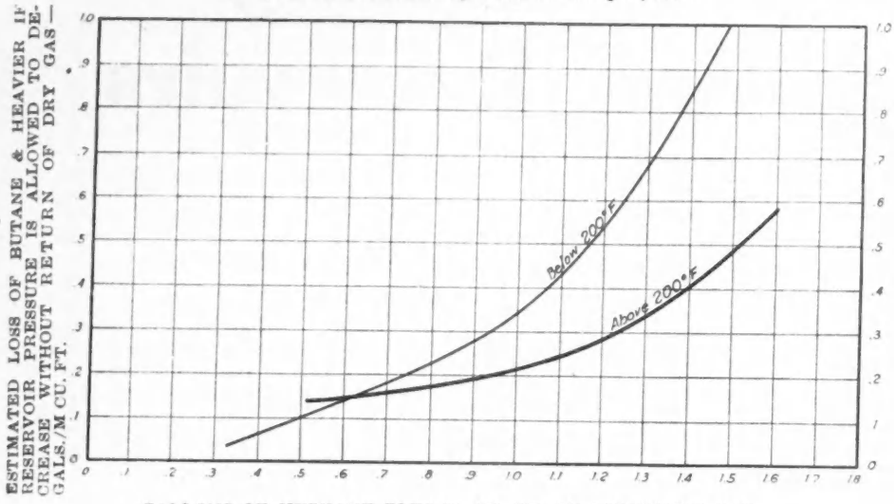
GALLONS OF HEPTANE PLUS M CU. FT. OF RESERVOIR GAS

A paper presented at the 25th annual convention of the Natural Gasoline Association of America at Dallas, April 17-19, 1946.

FIGURE 2

Tentative method for estimating the maximum loss of liquid hydrocarbons in condensate reservoirs when pressure is decreased by removal of the gas phase.


ESTIMATED LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS — GALS./M CU. FT.
Below 200°F
Above 200°F
GALLONS OF HEPTANE PLUS M. CU. FT. OF RESERVOIR GAS

development of the tentative method for predicting retrograde losses from gas analysis described and discussed in this paper.

Throughout the entire period of World War II, the United States Bureau of Mines, at the request of the Petroleum Administration for War, carried out a series of comprehensive studies of newly discovered gas-condensate fields in an effort to aid in expanding gas cycling operations. This was for the purpose of increasing the quantities of liquid products obtainable, which are well known to be of great value in the production of synthetic rubber, aviation fuel, explosives, chemical raw materials and other uses.

These reports gave, in addition to much other valuable data, information relating to the retrograde loss in the reservoirs studied. Since this work was carried on with extreme accuracy, the physical properties of only seven reservoirs were reported in detail. In studying this information, Henry M. Brown, then director of the Natural Gas and Gasoline Division of PAW District 3, suggested that all the available data be studied with the idea of developing some suitable graphic method of predicting retrograde losses in a gas-condensate reservoir, when the composition analysis of the reservoir fluid was known. With this in mind, study, using the data developed by the Bureau of Mines, was given to the development of curves and it was found, after extensive investigation, that a very smooth curve developed when the heptane plus fraction in GPM was plotted against the loss of butane plus due to retrograde condensation where no dry gas is returned to the reservoir. Several companies also furnished data and their personnel offered valuable suggestions in this work.

As above stated, the original curve developed from the Bureau of Mines data was very satisfactory and it is regretted that the Bureau of Mines cannot, at this time, remove the restricted classification of this information, so that the work of Eilerts and his associates could be published and the curve given with all the supporting data. In developing the curves presented in this paper, the authors choose to call them tentative. Other data mentioned was used and since the curves are partly based on Bureau data, only the tentative curves, without complete supporting data, are given at this time. It is hoped that this work may be expanded with greater detail in the near future.

First Curve

Figure 1 gives the first curve developed. It will be observed that should the GPM of heptane plus be available from the analysis of the reservoir gas the loss in GPM of butanes plus may be estimated from the curve. It can be seen that with increased GPM of heptane plus content in the reservoir the loss increases until the slope of the curve is constant and a maximum from about 1.00 GPM of heptanes plus and higher, when the temperature of the reservoir is not taken into consideration.

In analyzing this data, it was suggested by a member of one company that two curves be developed, one for reservoirs having temperatures below 200° F., the other for those above 200° F. He observed a relationship which is reported in Figure 2. It will be noted there is a tendency for the curve to cross when the content is about 0.650 GPM of heptanes plus.

The authors have studied the data with attention being directed to reservoir temperature, and curves for reservoirs below 200° F, 200° F. to 250° F., and above 250° F. have been developed. These are shown on Figure 3. At present, sufficient reliable data are not available to predict definite curves for all different temperature groups, but it is highly probable, and it is believed that as additional data is developed, the pattern as suggested will be confirmed. A study of the curves suggests that as reservoir temperature increases there is a decrease in the loss resulting from retrograde condensation. From this it may be anticipated that retrograde losses from deep structures will be less than for shallow ones. At present, the authors believe sufficient reliable data are available to draw the tentative curves for reservoir conditions above and below 200° F. and such tentative curves are set forth in Figure 4. These curves will be used in developing the ideas set forth in this paper in discussing the advisability of cycling low content reservoirs where a market is available for the sale of gas.

A study of Figure 4 indicates that in all reservoirs for fluids, containing about 0.600 gallons of heptane plus per thousand cubic feet of gas and less, the two curves coincide. With this in mind well fluids indicating about 0.600 GPM of heptanes plus were studied concerning the loss in percent and loss in GPM of butanes plus, when plotted against the GPM of butanes plus in the reservoir fluid. Figure 5 reflects this correlation and it will be noted that for well effluents containing about 1.18 GPM of butanes plus the retrograde loss is about .12 GPM of butanes plus or about 10 percent. Since there is substantial data on reservoirs of this content, suggesting lower losses, it appears desirable to state, until more data is available, that reservoirs with 1.18 GPM of butane plus would have a maximum loss from retrograde condensation of 10 percent or less of their liquefiables in the absence of cycling. In estimating this loss it should

FIGURE 3

Tentative method for estimating the maximum loss of liquid hydrocarbons in condensate reservoirs when pressure is decreased by removal of the gas phase

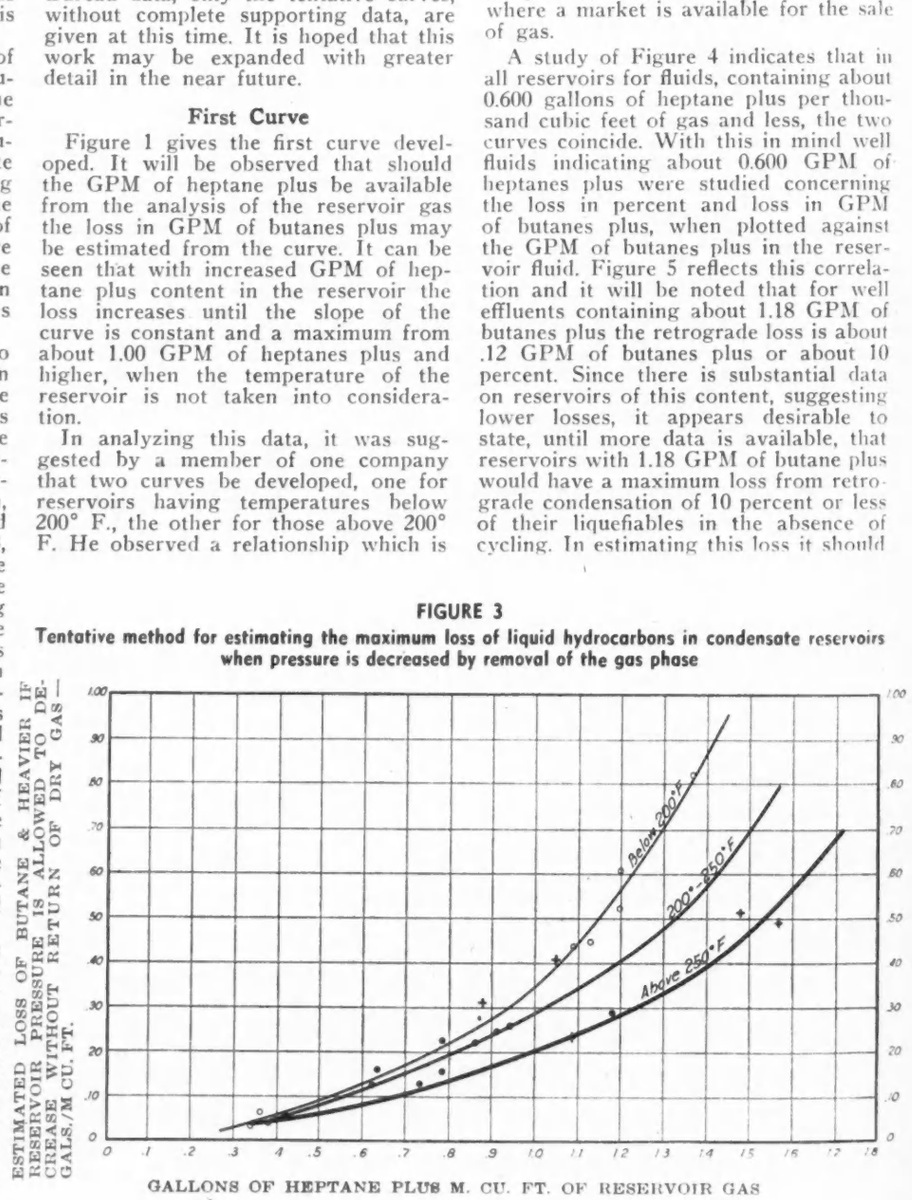
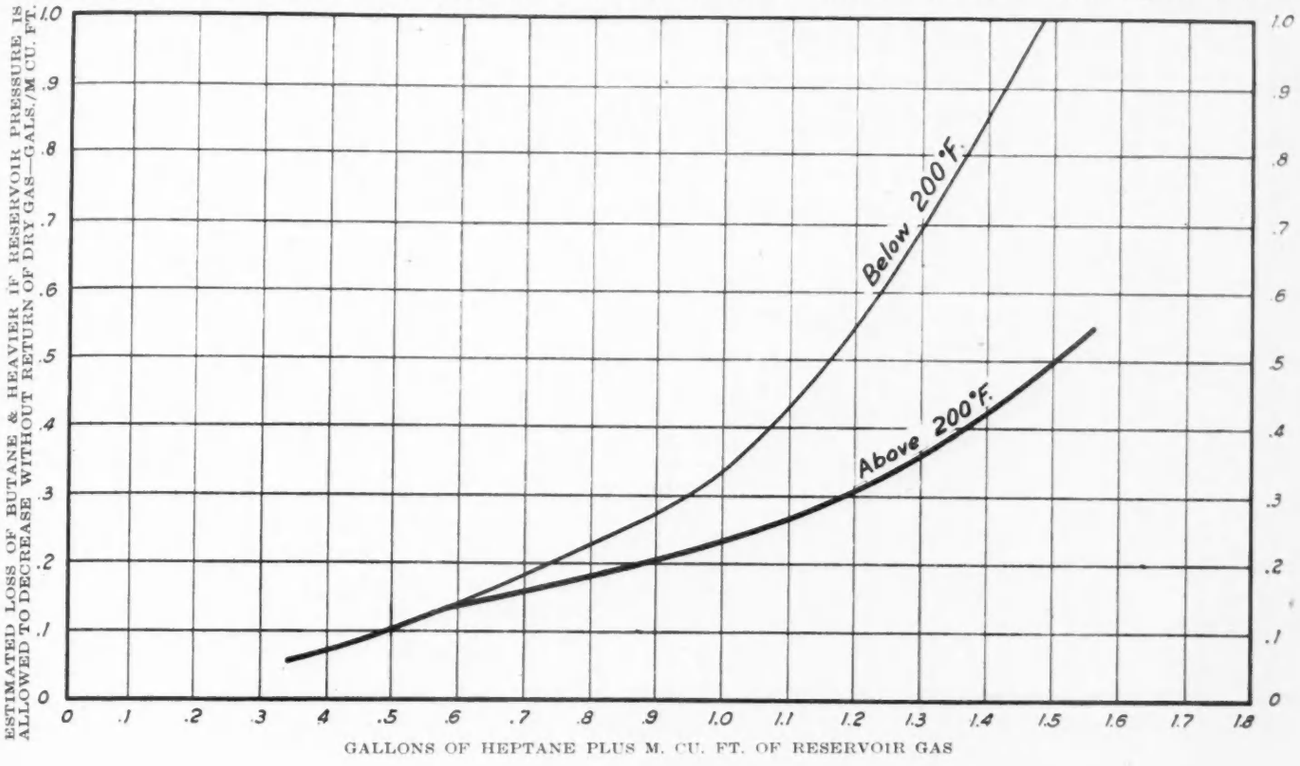

ESTIMATED LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS — GALS./M CU. FT.
Below 200°F
200°-250°F
Above 250°F
GALLONS OF HEPTANE PLUS M. CU. FT. OF RESERVOIR GAS

FIGURE 4

Tentative method for estimating the maximum loss of liquid hydrocarbons in condensate reservoirs when pressure is decreased by removal of the gas phase.


ESTIMATED LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS—GALS./M CU. FT.
Below 200°F.
Above 200°F.
0 .1 .2 .3 .4 .5 .6 .7 .8 .9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8
GALLONS OF HEPTANE PLUS M. CU. FT. OF RESERVOIR GAS

be pointed out that this is the maximum loss which may occur in the absence of re-evaporation, and the sweeping of any condensate into the well bore, thus the 10 percent appears to be a definite maximum loss. This loss assumes a well spacing and operation that will permit moving all wet gas to producing wells. Practical experience over many years indicates this to be impossible and the above losses will necessarily have to be increased because of sweep pattern efficiency.

Other Factors

Having established the maximum possible and improbable loss at 10 percent of butanes plus in the reservoir (for gas with 1.18 GPM of butane plus, or less) in the absence of the return of the dry gas for pressure maintenance, other factors tending to reduce such a probable loss become evident.

It has been reported to reinject the dry gas and reprocess the stripped gas, after cycling, when 75 percent of the reservoir is swept out by the injected gas, that approximately 1.81 pounds of dry gas per thousand cubic feet of reservoir gas is required. Assuming 0.600 gravity, this gives about 40.0 cubic feet of dry gas per thousand cubic feet of original reservoir gas that must be used to offset the maximum loss of .118 gallon of butane plus in the absence of cycling.

The value of 40.0 cubic feet of dry gas is better seen in terms of liquid hydrocarbon fractions when we apply the present trend of converting 10,000 cubic feet of dry gas into about one barrel of liquid hydrocarbons, part of which may include usable oxy-hydrocarbon chemicals. Thus 40.0 cubic feet of dry gas becomes potentially .173 gallons (calculated from latest data on the Synthine Process) of valuable liquefied hydrocarbons. To offset the maximum and highly questionable loss of .118 gallons of butane plus, an amount of dry gas, equivalent to .173 gallons of hydrocarbon liquefiables, must be expended. Using the equivalent of 0.173 gallon of liquid hydrocarbon material for reinjection, leaks and processing losses, reference to Figure 4 suggests cycling is questionable for gas with 0.70 and 0.80 GPM heptane plus content in reservoirs below and above 200° F. respectively.

The inadvisability of cycling 1.18 GPM gas is further confirmed when we take into consideration the retrograde loss that cannot be prevented due to pressure drop even in the most efficient cycling operation, and when the possibility of revaporization is considered and the subsequent sweeping of condensed hydrocarbon fractions into the well bore by the movement of the formation gas.

As previously noted, the loss of liquefiables increases with increased heptane plus fraction of the reservoir fluid. Therefore, with higher GPM fluid conent, the necessity of cycling becomes apparent unless adequate steps are taken to insure the recovery of the condensed fluids from the reservoir. Should a gas market be present under such conditions the reservoir could probably be conservatively operated in one of the following two ways. (1) A portion of the dry gas delivered to pipe line operations with the required amount of injected gas made available by water gas injection and pressure maintenance in the reservoir until the completion of the cycling program, (2) processing the reservoir without cycling and denuding the reservoir of its condensed liquefiables at a lower pressure by sweeping with the lower gravity and lighter water gas.

TABLE 1

Reservoirs Above 200° F.

Reservoir Temp.	Heptane Plus G.P.M.	Butane Plus G.P.M. Loss
260	1.570	.495
254	1.480	.521
249	1.195	.276
210	.783	.225
252	.88	.337
242	.79	.159
273	1.095	.243
236	.943	.258
229	.915	.25
251	1.047	.41
201	.630	.18
206	.859	.23
230	.418	.06
217	.612	.138
233	.745	.132

Reservoirs Below 200° F.

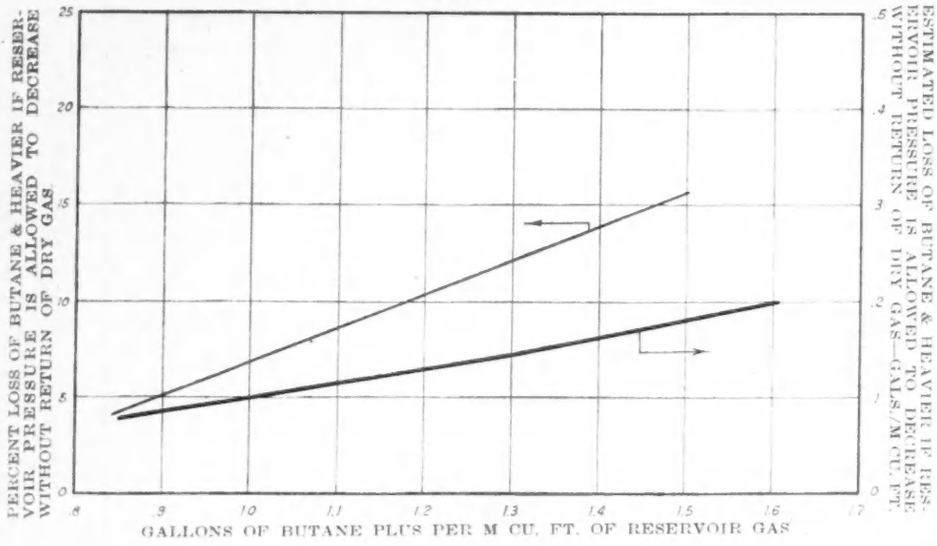
188	1.368	.832
188	1.195	.597
188	1.195	.517
199	1.133	.46
193	1.089	.44
172	.335	.04
154	.393	.045
150	.364	.068

Water Gas Production

Before entering into a discussion of these possibilities a description of the method of water gas production using "cheap oxygen" and natural gas may be in order.

Prior to the war commercial oxygen obtained by fractional distillation of air was carried out to a limited extent. The high cost of this oxygen was occasioned by the high working pressure, and expensive chemical means of removing carbon dioxide and water vapor. Recently, a newer process, termed "cheap oxygen," has been developed which uses lower pressures and removes water vapor and carbon dioxide by "cold regen-

FIGURE 5


PERCENT LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS
ESTIMATED LOSS OF BUTANE & HEAVIER IF RESERVOIR PRESSURE IS ALLOWED TO DECREASE WITHOUT RETURN OF DRY GAS—GALS./M CU. FT.
GALLONS OF BUTANE PLUS PER M CU. FT. OF RESERVOIR GAS

eration methods." Combined with other developments this process suggests that we may be entering a new era in which hydrocarbon gases will not only be used as fuel or a chemical raw material but for both. As an example, in the production of hydrogen for the manufacture of synthetic ammonia, approximately one volume of natural gas was required as fuel to convert one volume of natural gas into water gas, and subsequent conversion into hydrogen to be used in the synthesis of ammonia. With "cheap oxygen" available, a mixture of steam, oxygen, carbon dioxide and methane may be made to react under controlled conditions to give water gas (hydrogen and carbon monoxide). In this process sufficient energy in the form of heat is liberated for process steam and power while the reaction is stopped at the energy level to give the desired water gas; thus, the hydrocarbon gas is employed to liberate energy and at the same time be available as a chemical raw material.

One prominent executive in the cycling industry has suggested that with this process it may be possible, in cycling operations, to supply a pipe line with dry gas and make up the required amount of cycle gas with water gas produced from a portion of the dry gas, because one volume of metane gives approximately three volumes of water gas. However, the pressure at which this reaction must be conducted at present, indicates expensive compression rates in high pressure reservoirs. The application to the second suggested method may be of more practical importance for the following reasons:

When the reservoir is produced in the absence of cycling and when the pressure falls to about 1000 pounds, water gas production could then be initiated and the reservoir swept out with lighter gravity gas having a low British Thermal Unit content (about 300 B.T.U. per cubic foot). Such an operation could have a greater tendency to re-evaporate the heavier liquid fractions or sweep them to output wells and the resulting gas would have a higher B.T.U. content than the injected water gas, even after gasoline removal, and could then be used as fuel or chemical raw material. Full deliveries to pipe line could be currently maintained as only a portion of the gas produced would be required to manufacture a volume of water gas equivalent to the natural gas output of the wells.

Naturally, the use of dry gas as both a source of energy and a raw material in the form of water gas would tend to decrease the fuel requirements, as outlined, to offset the economics of cycling reservoirs of 1.18 GPM and less. Should such a procedure be used in low GPM reservoirs it would, because of the lower gravity gas, tend to cause a greater amount of re-evaporation. The net result would be not to greatly disturb the material balances previously referred to in processing reservoirs having low GPM content fluids.

Another interesting and possible method adapted to the recovery of liquid hydrocarbon fractions, which have wet the sand face due to retrograde condensation, is the use of chemicals which selectively reduce the retentivity of absorbed liquids. Present research conducted along these lines suggest such possibilities. Continued investigation along this line should be undertaken to complete the study and properly evaluate its economics, as in the near future the process may become of profound importance in gas cycling operations. Finally, the almost absurb possibility of using nature's reservoirs as high chemical reactors must be recognized. Just as solid fuels like coal have been gasefied in place using their natural beds as huge reactors, so may our gas condensate reservoirs, with their great pressure and high earth temperature, be made to react their hydrocarbon gases with selected and controlled quantities of chemicals to give valuable chemical raw materials and products to be used in the ever expanding petro-chem industry of today and tomorrow.

TABLE 2

Field	Butane Plus G.P.M.	Butane Plus G.P.M. Loss	Loss Percentage	Heptane Plus G.P.M.
A	1.190	.18	15.1	.630
B	.903	.04	4.4	.335
C	1.000	.06	6.0	.418
D	1.035	.045	4.3	.393
E	1.097	.068	6.15	.364
F	1.380	.138	10.03	.612
G	1.555	.132	8.51	.745

Effective Management

■ CONTINUED FROM PAGE 24

fixed periodic intervals, between two and four per year.

5. The results of the review should be discussed openly and frankly with the employe reviewed.

It is in the application of Point 5 that the greatest benefit is to be gained by the intelligent use of an employe service review. To be beneficial the interview must be conducted by the highest possible supervisor practical. This is management's chance to meet and talk directly to the employe. The discussion, and it should be a discussion, not an interview, is best conducted in an informal manner. The point of discussion is the employe service review and his strong and weak points. Through the discussion, important conditions underlying possible troubles may be revealed. Also, management may be surprised at many common-sense suggestions brought out by the employes in the course of the talk.

Talks with Employes

The supervisors who talk with the employes must be careful that the talks result in benefits and not resentment. The Western Electric Company in its famous personnel experiments in the Hawthorne Plant, developed some sound rules in talking with employes. These rules may well be applied in the everyday dealing between supervisor and employe.

The first rule is that the supervisor should listen to the complete story from an employe before making comments. The best way to bottle up an employe is to interrupt him before he has expressed himself. The second rule is that a supervisor should refrain from hasty correction of an employe's statements. The employe may state that his boss is a "damn poor leader." The supervisor should not try to cover up by saying that the employe does not have the proper attitude, doesn't understand his boss, etc. Rather, the supervisor should try to find the reasons why such a statement was made. The situation may be cleared up by such an approach but will never be cleared by covering up. The fourth rule is that the supervisor should help the employe express what he wants to say but cannot clearly state. This takes skill and patience, but may be amply rewarded by the results.

Human Approach Vital

Such personal interviews conducted skillfully with the view toward better fitting the employe in his job and in his position among his fellow employes, are important blocks in the management structure.

The human problem in business can be solved only by a human approach. The modern business society has become complex and involved; but much of the grief involved between management and employes has been the attempt to apply complex formulas and mathematical equations to this complex problem. It is believed that the answer is not complex, but a return to the simple but proven man-to-man way of getting together through honest, unbiased discussion.

(This is the third of five articles. The next, "Wage and Salary Administration," will appear next week.)

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CONDENSATE FIELD *Corrosion*

AN EXTENSIVE program of analysis of waters from cycling wells recently completed by the Corrosion Research Project Committee of the Natural Gasoline Association of America has yielded some significant information on the physical and chemical differences of corrosive and non-corrosive fields. While not as conclusive as first anticipated, the data indicate that appreciable quantities of iron and organic acids in well waters do not necessarily indicate a high rate of corrosion or even that corrosion is present.

The work is part of the broad cycling well corrosion studies of the NGAA Corrosion Committee, of which T. S. Bacon, Lone Star Producing Company, Dallas, is chairman. Operating as a cooperatively financed project, the primary object of the Committee is to determine the cause of corrosion in gas condensate fields. This corrosion has been observed in tubing strings at depths up to 10,000 feet and has been serious throughout tubing strings, wellhead equipment and flow lines from wells to cycling plants. Several theories have been suggested on the causes of this corrosion. One theory is that carbonic acid formed from reaction of the carbon dioxide content of the gas with the liquid water conlensed from the gas might attack the steel equipment. Another theory was based on the fact that appreciable concentrations of the lighter fatty acids, such as acetic and propionic acids, were found in water samples obtained from corroded wells. It also seemed possible that the joint action of the carbonic acid and of the organic acids might be responsible for this serious corrosive attack.

Sampling Program

In order to obtain factual information on the presence of the above acids, and on other chemical constituents of the waters produced from corroded wells, the NGAA instituted a sampling program of broad scope. Water samples were obtained from wells and fields of known corrosiveness and were carefully analyzed under the supervision of W. A. Cunningham, head of the Department of Chemical Engineering, University of Texas. As the Committee realized that samples from corroded wells would give one side of the picture only, it arranged to have an approximately equal number of samples collected from wells that showed no corrosion. These samples from non-corroded wells were analyzed in the same way, following the same techniques, so that direct comparisons could be made between the chemical composition of water samples from corrosive wells and from non-corrosive wells.

Duplicate samples were obtained from each well or field so that some indication of variation in chemical composition could be made. Samples were obtained from 14 corrosive fields, 10 non-corrosive fields, and 12 fields on which available operating information was insufficient to determine whether or not a corrosive condition existed. The maximum values, minimum values, and average values of the data obtained is shown in the table. It is interesting to note that the carbon dioxide content of the gas from the corrosive fields is definitely higher than that of the gas from the non-corrosive fields. However, it seems unlikely that this difference in carbon dioxide content as observed is sufficient in itself to explain the extreme differences in rates of corrosive attack. It is also interesting to observe that organic acid concentrations are very slightly higher in the corrosive fields than in the non-corrosive fields. It appears from this information that the presence of organic acids in the wellhead water samples is not in itself an indication of the likelihood of serious corrosive attack.

NGAA — WATER SURVEY

	Corrosive Fields			Non-Corrosive Fields		
	Max.	Min.	Average	Max.	Min.	Average
Depth—Feet	13,200	4,050	8,077	7,200	2,197	4,840
Reservoir Temperature—°F	250	157	207	190	76	142
Reservoir Pressure—Lb./Sq. In	5,000	1,330	3,243	3,200	400	1,619
Well-Head Temperature—°F	170	100	134	130	72	95
Well-Head Pressure—Lb./Sq. In	4,000	1,110	2,454	2,640	250	1,198
Production Rate—MMCF/Day	30	2.5	9.7	10	0.7	4.3
Distillate Content—Bbl./MMCF	70	2.5	27.8	26	0	8.2
Water Content—Bbl./MMCF	3.7	0.4	1.17	34	0	6.6
CO_2—Vol. %	2.0	0.6	0.87	0.7	0	0.35
H_2S—Grains/100 Cu. Ft.	0.08	0.0	0.001	0.2	0	0.05
pH (at Atmos. pres.)	6.5	4.5	5.4	7.2	4.1	5.8
Phenol Alkalinity—P.P.M. C_aCO_3	0	0	0	0	0	0
M. O. Alkalinity—P.P.M. C_aCO_3	448	20	148	692	8	121
Total Solids—P.P.M.	74,400	242	11,600	186,400	151	36,000
Cl—P.P.M.	39,200	0	5,780	95,500	0	18,100
SO_4—P.P.M.	104	0	21.0	70	8.5	29.9
Fe_2O_3—P.P.M.	1,280	160	439	441	57	185
Organic Acids—P.P.M.—C_2H_5COOH	812	49	222	405	0	156

Salt water is a well known corrosive agent in the presence of oxygen. Gas wells do not contain oxygen and therefore the corrosiveness of the salt water is nominal. The amount of salt water in the wellhead samples is indicated by the chloride content. It is noted from the data that many corrosive fields show very appreciable concentrations of salt water whereas many other corrosive fields show practically no salt in the wellhead water samples. The non-corrosive fields also range in salt content from zero to extremely high concentrations as judged by the chloride content of the water samples.

The dissolved iron contents of the water samples of the corrosive fields were definitely higher than the dissolved iron contents of the water samples from the non-corrosive fields. However, some non-corrosive fields showed higher iron contents than some of the definitely corrosive fields. Therefore, it appears that iron content alone is not a satisfactory indication of the amount of corrosion that may be anticipated in any particular well or field.

Pressures, Temperatures Higher

The available data in its present form fails to show any significant chemical differences in the composition of water samples from corrosive fields as compared with water samples from non-corrosive fields. The data does indicate higher average pressures and higher average temperatures in the corrosive fields than in the non-corrosive fields. It is well known that acid attack of metals increased rapidly with increase in temperature and also that the effectiveness of inhibitors in preventing acid attack of metals decreases rapidly with rise in temperatures. Other work on this subject of high pressure corrosion sponsored by the NGAA, and under the supervision of Dr. Norman Hackerman of the University of Texas, has indicated the likelihood that the corrosive attack is an acid type of attack that is partly inhibited by some naturally occurring inhibitor in the corrosive wells and is substantially completely inhibited by the same naturally occurring inhibitor in non-corrosive wells.

The NGAA Group has not been able to draw any final conclusions from the available data to date. However, the data does indicate the likelihood of acid attack of iron equipment in all gas wells. Prevention of this acid attack in the non-corrosive wells may be assumed to be due to the presence of a naturally occurring inhibitor. The NGAA Group is attempting to pursue the matter further so that this theory may either be confirmed or abandoned, and so that some reliable method of estimating the likelihood of corrosive attack in new wells and in new fields may be found.

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Carrying Frame Coils and Safeguards Rotary Hose Against Transportation Hazards

Treatment of the rotary hose between locations has more to do with the length of its life than any it may receive on the derrick floor, so long as recommended working pressures are not exceeded.

HOSE CARE

One company which has a work-over rig fashioned the rack shown to transport rotary hose. Using 4-inch pipe for foundation skids, a framework of 2-inch pipe is built up in an octagonal shape to accommodate the rotary hose. Another framework is built to retain the inside of the coil of hose and make each coil lie in its proper place.

The space inside the 2-inch railing which protects the inside of the coil is further utilized for storing and transporting drill joints, small subs and pipe nipples. This space is enclosed by means of salvaged tank steel. The plates are cut to size and fitted to the inside of the bin so as to make a smooth interior.

Holes are burned in the middle of the railing around the top of the rack to allow steel rods to be thrust through the railing to hold the hose in place over longer distances, and also to prevent damage to the rose from sharp objects that may be placed above it in the load.

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WATER GAGE SET

For oil field, locomotive type and marine boilers. Water shows black — steam shows white; the water level is unmistakable. U-Bolt construction is strongest and simplest to service. Glass replaced by simply removing nuts on face of gage . . . unnecessary to work between gage and boiler. Conforms with A.S.M.E., Federal and State requirements when used for pressures specified by their respective codes.

This is one of the complete line of Penberthy gages that meet every liquid level gage requirement.

See Pages 2450 to 2466 Composite Catalog

PENBERTHY INJECTOR CO.
DETROIT, MICH. Canadian Plant WINDSOR, ONTARIO

Steel Pipe Frame Makes Durable Driller's Seat

The usual driller's bench, nailed together from 2-inch planking, is heavy, uncomfortable and, unless carefully made, requires frequent overhauling to keep it safe for use. One contractor,

CREW COMFORT

realizing that a comfortable driller could more easily check difficult drilling than could a man who was constantly seeking to find ease on his bench, discarded the usual bench in favor of a chair, welded up from pipe and pieces of light steel plate. The chair, patterned closely after a wooden one, had the back set at a slight angle to afford support to the driller's back and shoulders. A pad, held within the rectangle formed by the sides and top of the back section, prevented contact with the steel frame and added to the driller's comfort in cold weather.

Instead of the usual flat seat, this chair was equipped with a salvaged automobile—in this instance bus—seat cushion, which was fitted with four light steel angles spotted so they would slip within the square of the chair frame and prevent shifting of the cushion.

The leather covering of the bus cushion, although exposed to the sun and rain, has stood up for the drilling of two wells, and is still intact. It is kept in condition with occasional applications of leather dressing or saddle soap, which exclude water and check excessive drying.

The chair legs, to provide better footing on the derrick flooring, are formed with turned out flanges, the pipe walls being flattened together and then bent outwardly through about 95 degrees. If it is desired to fasten the chair or prevent its shifting while in use, staples formed from heavy wire or welding rod may be driven into the floor planking after being placed so as to span the chair pipe footings.

SURPLUS HOBART ARC WELDERS

200, 300 AND 400 AMPERE RATINGS

Three million dollars worth of surplus Hobart Arc Welders *must* be sold between May 15th and June 15th. Most of this equipment is of the MG type but some quantity is available in gasoline driven units. Arrangements may be made to inspect the offered items. Largest inventories are located at Boston, Detroit, Cleveland, Chicago, Atlanta, Kansas City, Richmond and Philadelphia—but information on availability, condition and location may be obtained at any of the War Assets Administration Regional Offices listed below. The equipment will be sold on a "where is, as is" basis . . . used or unused . . . and priced accordingly. For full information contact the nearest office listed below or check and mail this coupon.

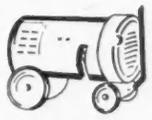
ALSO MANY OTHER TYPES OF WELDING AND FLAME CUTTING EQUIPMENT

LINCOLN

Hundreds of Lincoln Arc Welders in the popular 300-400 Ampere size are also available; some gasoline engine driven.

WESTINGHOUSE

Flexarc equipment for production or construction operations is available in smaller quantity. Also other standard makes and ratings.



RESISTANCE WELDERS

Spot Welders located in Philadelphia, Detroit, Chicago, Los Angeles, Cleveland and Kansas City; *Seam Welders* in Cleveland, Chicago, Detroit, Birmingham, Boston and Philadelphia. Also *Flash Welders*.

WELD POSITIONERS

In standard sizes and types, are located in Detroit, Boston, Chicago and New York.

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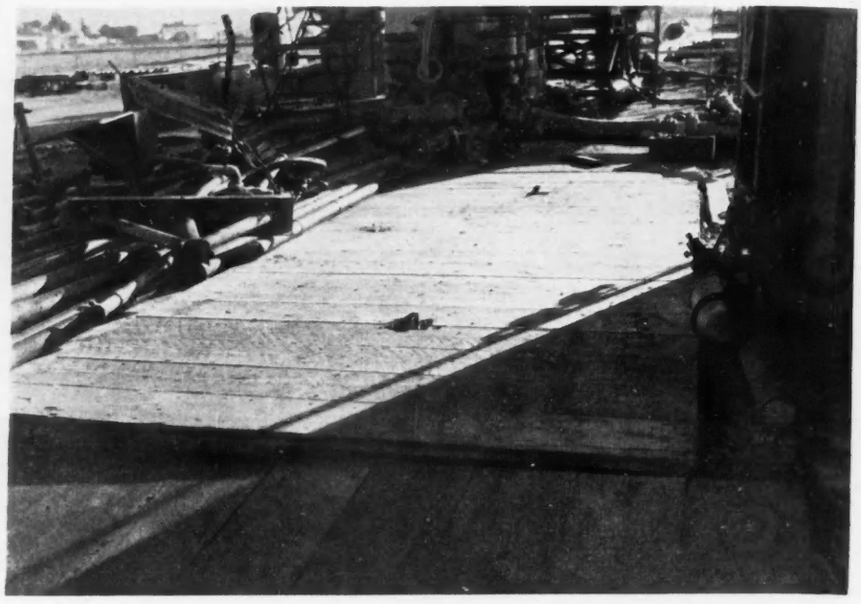
THE POSITIVE LEAK PREVENTER

Unitized Timber Panels Provide Safe Walkways



RIG FLOOR

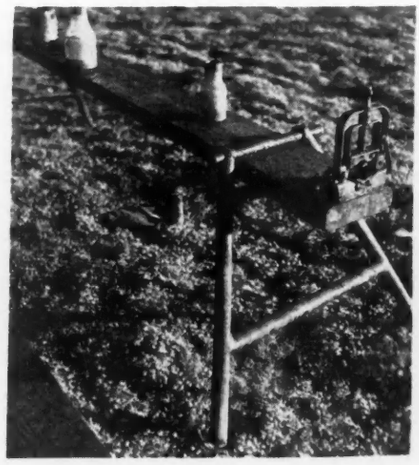
In areas having little run-off and where water tends to stand in puddles around the drilling site, good use may be made of unitized sections of floor planking both around the rig itself as well as at boiler settings and in connecting walkways. One drilling contractor had made up several such units which are carried from one location to another. Made of 2 and 3 x 12 planks laid crosswise and spiked together they form an unusually strong and rigid base which will not easily warp or splinter under weight of heavy objects. The sections are provided with heavy steel rings which are secured to the bottoms of recessed wells in the centers of the floor units. When placed in position at the well, the rings are laid down and do not project above the floor level.

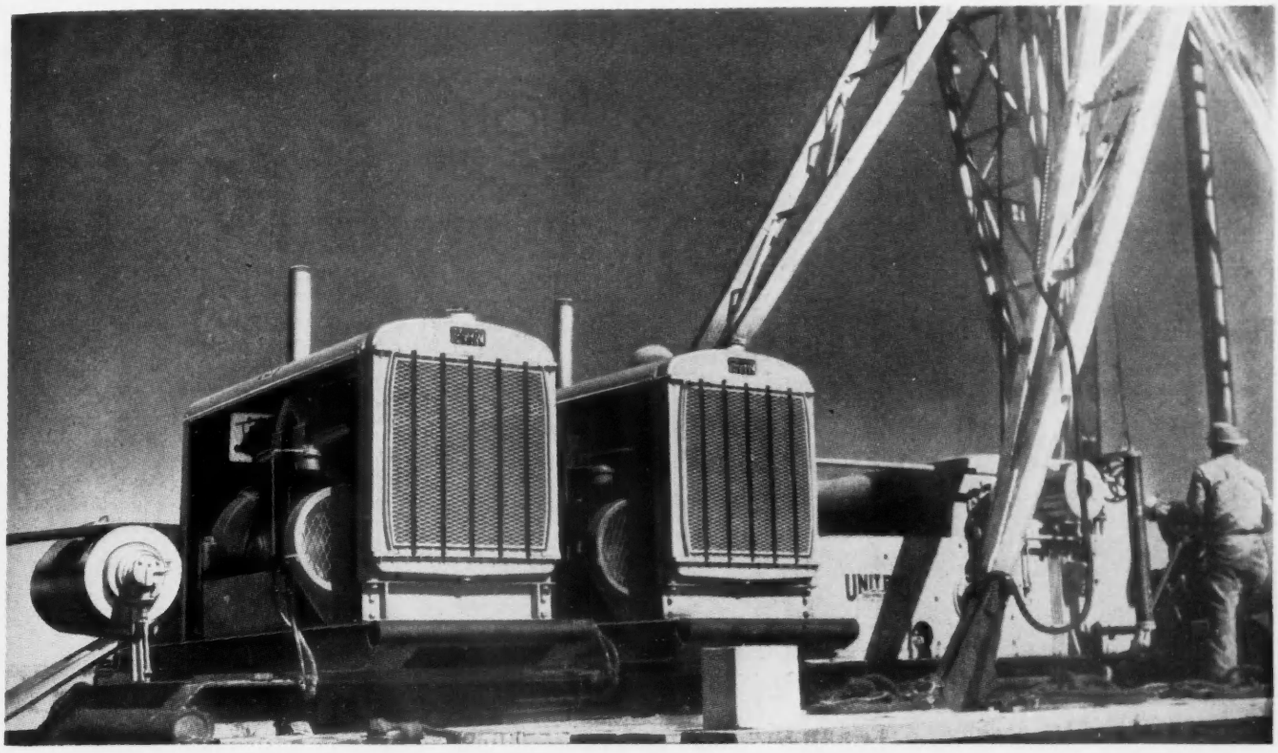
The time saved in the course of normal drilling operations for such occasions as equipment overhaul and general accessibility of the several rig units more than repays the slight extra cost of unitizing the floor sections.

Adjustable Support for Field Pipe Fitting Bench

PIPE BENCH

Greatly simplifying the setting up of knock-down type field work benches is the method employed by the piping crew of one company. The use of a pair of truncated pyramidal-shaped pipe legs as supports is not uncommon, but usually the task of inserting the plank or planks through the slot in the top of each of the legs is difficult and requires more than one man to hold the units in place while setting up the bench. By making the top bar of each support removable as shown in the photograph, one man may hold the leg erect, lay the plank atop it and then place the pipe bar in its position. This method also emilinates necessity for having to slide the leg along the length of the plank to the desired position, it being possible to spot the leg.





The W. D. Kelly Drilling Company, of Pampa, Texas, owns this Model U-10 UNIT Rotary Drilling Rig, powered by two MURPHY DIESEL Model ME-66, 6 x 6½", 6-cylinder full Diesels, compounded for 300 HP continuous, 360 HP intermittent.

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MURPHY DIESEL performance indicates these are engines that will keep up their good work and be prominent in future oil field projects . . . for they have proved themselves economical in operation and maintenance, rugged and long-lived, able to stay on the job "through thick and thin". . . and they are compact and relatively light enough in weight to be adaptable to either portable equipment or stationary installations. There are other reasons, too . . . write for bulletin.

FIELD-PROVEN *Power*..

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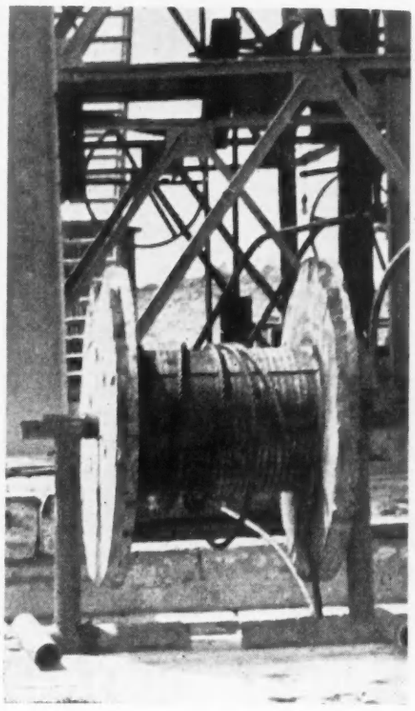
Welded Supports for Reel Carrying Spare Drilling Line

WIRE LINE HANDLING

A stand for the spare wire line, or for that portion of the drilling line which is being fed through the string-up as the drum-crushed end is removed, may be made up from a few short pieces of pipe, and will serve most effectively to protect the reel and enable the line to be drawn off as needed.



The support is composed of two identical stands, each having a T-shaped base of heavy pipe, with the cross member of the Tee extending to either side of the stub a distance equal to the radius of the largest reel to be supported.

A riser is welded to each of these Tees, at a point some four inches from the junction, the riser being long enough to carry the reel clear of the supporting stub members. Each riser is in turn fitted with a Tee or a pipe collar—in the case of the latter the collar being fitted into a notch in the riser and welded to lie parallel to the stub of the supporting pipe Tee.

The two supports are placed on an axle put through the reel while the load is still supported by the derrick or truck winch line, being adjusted so as to afford the desired clearance between support and reel rim. The whole assembly is then lowered to the timber flooring or to prepared blocking if no flooring is provided. The two supporting Tees adjust themselves automatically to compensate for any slight inequalities in the planking, and resist the lateral pull of line as it is unwound and passed upward through the hold-down to become the dead-line of the rig's string-up.

Rubber Wiper Forms Effective Floor Squeegee

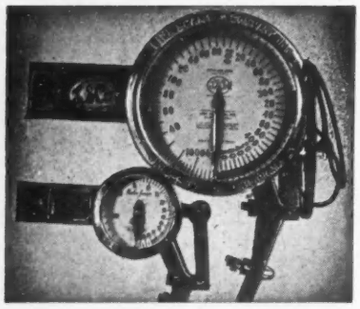
FLOOR SAFETY

A rubber squeegee for removing excess water, drilling mud or oil from the derrick floor may be made up with little trouble by utilizing a worn rubber wiper for an oil saver. The handle is formed from a short section of ½-inch pipe, to the lower end of which has been welded a curved base cut from a section of 2-inch pipe formed to fit the outside curve of the oil-saver rubber.

A wiper, split in half lengthwise, is fastened to this handle with a series of ¼-inch stove bolts which pass through the rubber and matching holes in the curved base, the nuts being run up from the outside to prevent their catching in the planking when the squeegee is used.

The scraper works as well on the concrete of a cellar as it does on planking.

LINE SCALES



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For more detailed information see pages 2814 and 2815, Composite Catalog.

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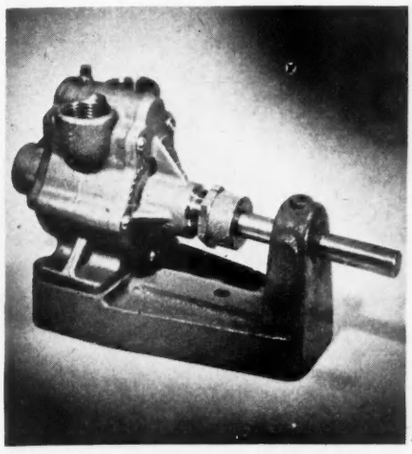
NEW EQUIPMENT LITERATURE

For additional information, use mailing card inserted opposite this page

1—Gearless Pump

ECO Engineering Company has developed a double-impeller gearless pump, with standard one-inch connections and a built-in external driveshaft bearing and base. Designed to eliminate the



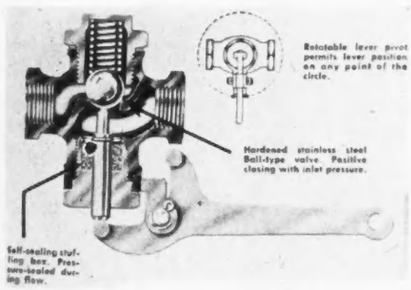
most common causes of pump failures, gear jamming and stripping, the ECO pump employs double impellers made of several layers of a pressure-vulcanized, laminated material and is said to pump equally well in either direction.

Capacity of the pump varies from 7½ gallons per minute at 600 revolutions per minute to 23 gpm at 1800 rpm. Over-all dimensions of the new double impeller model are 10½ inches by 4¼ inches by 5¾ inches. The pump is equipped with a built-in driveshaft bearing which the manufacturers claim eliminates side-pull when the pump is powered by a belt-drive and pulley, and also increases the life of the impellers.

(Check item 1 on coupon for more information.)

2—Ball Type Valve

The Leslie Company announces a new self-sealing, air operated, ball type valve, known as type BA. Fitted with a hand-opening level lever and a rotatable pivot so that the lever can be located in


Rotatable lever pivot permits lever position on any point of the circle.
Hardened stainless steel Ball-type valve. Positive closing with inlet pressure.
Self-sealing stuffing box. Pressure-sealed during flow.

any position, this new valve can be opened instantly from almost any position with either a horizontal or vertical pull. The ball valve closes tight with inlet pressure and will not collect dirt or other foreign matter. The stuffing box is not accessible to tampering or adjustment and is self-packed by the operating pressure when the valve is open, permitting flow. The valve is recommended for operating pressures up to 200 pounds per square inch. It is constructed of cast iron bodies, with integral seating surfaces and screwed connections, and is available in ½-inch sizes.

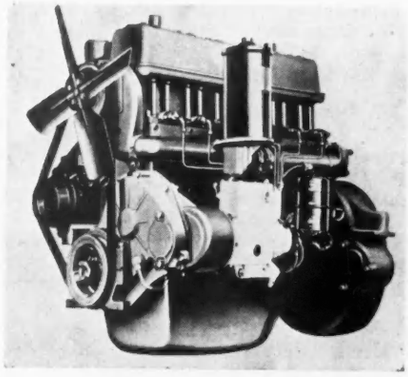
(Check item 2 on coupon for more information.)

3—Diesel Engines

Continental Motors Corporation has started production on a new line of industrial diesel engines ranging from 25 to 150 horsepower. Five models will comprise the initial engine line, two 4-cylinder and three 6-cylinder models. The outstanding characteristic of the engine is in what the company describes as a "cushioned power" combustion chamber which causes delayed burning of the fuel and makes possible low working pressures on the cylinder.

The combustion chamber is so located and designed as to effect marked improvement in power output and economy, the manufacturers believe, and reduce working pressures resulting in longer engine life.

The combustion chamber is of the

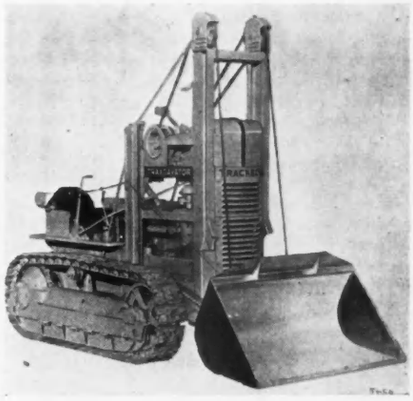


open type and relatively small. This facilitates starting in cold weather, as the valve and chamber reach near-normal operating temperatures after only a few revolutions. Directly off the combustion chamber and opposite the injection nozzle is a double air cell, described as a "Dyna-cell." The stream of fuel sprayed by the injection nozzle is relatively coarse. The spray ignites immediately with the fuel in the open chamber, while the coarse portion of the stream is directed into the air cell on the far side of the chamber. As the burning occurs within the main combustion chamber, the pressure in that chamber rises and tends to flow into the air cells with the stream of coarse fuel directed there by the nozzle. At the same time, the engine crankshaft is rotating and is moving the piston through the top of the compression stroke and starting downward on its power stroke.

(Check item 3 on coupon for more information.)

4—Excavator

The Trackson Company announces the addition of a new model to its line of "Traxcavators." Model IT4 mounts on and is powered by the "Caterpillar" D4 track-type tractor. The standard



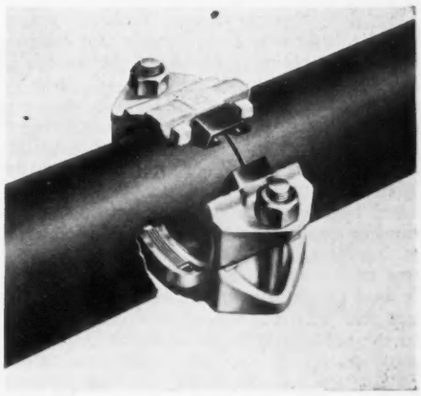
bucket has a capacity of 1 cubic yard and can be used for digging, grading, loading and material handling, and is also wider than the tractor tracks so that it will trim close alongside curbs and walls.

Another feature of the "Traxcavator" is the interchangeability of the bucket with a bulldozer blade, which can be quickly installed. This "anglegrader" and other attachments are available. A drawbar is provided in the rear making the tractor usable for pulling jobs. The mechanical hoist is driven from the front power take-off of the tractor through a V-belt drive, and is independent of the tractor clutch and transmission. The bucket can be dumped from any point of the lift, and has a digging range from 14 inches below the track line to 56 inches above the track line.

(Check item 4 on coupon for more information.)

5—Pipe Coupling

Pipe Couplings, Inc., has introduced a pipe coupling, the "Roust-A-Bout," for use throughout the oil industry. Based on the principle of "slips," the coupling has this feature designed into

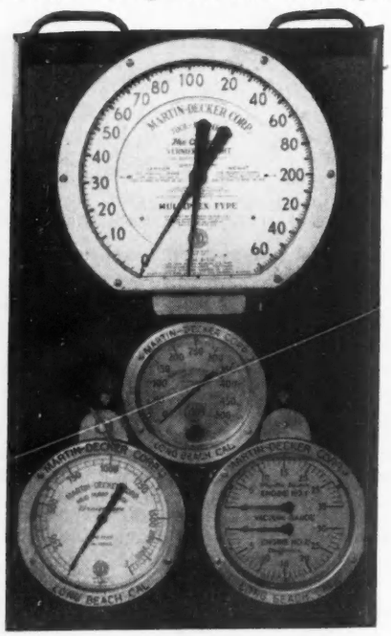


it. Simple in construction, the complete coupling is made up of a triple-seal, synthetic rubber gasket and two half-housings of malleable iron. It is designed for use on ordinary steel or standard outside diameter pipe, and can be used on plain or beveled ends, new or used pipe.

The coupling is recommended for working pressures up to 1000 pounds and can be applied by the inexperienced workman in a short time, requiring only a socket wrench. The "Roust-A-Bout" is manufactured in 2, 2½, 3, 4 and 6-inch sizes. It is recommended for use in service lines to drilling rigs, separator tie-ins, tank hook-ups, lease lines, make-up connections and emergency fire lines.
(Check item 5 on coupon for more information.)

6—Weight Indicators

Martin-Decker Corporation has developed a line of Clipper Sealtite weight indicators for use with the jackknife, portable or mast rigs or for conventional derricks having restricted floor space.

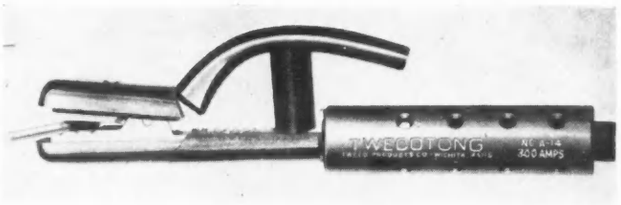


Contained in a rugged steel box 16 inches by 16 inches by 26 inches, the indicator is self-contained and factory-sealed.

All connections and hoses may be shipped totally enclosed within the box. Special non-freezing, non-corrosive weight indicator fluid which the manufacturers claim provides temperature compensation under all climatic conditions. The unit is available in several combinations of indicators. Combining all into one unit, the Clipper sealtite indicator contains the weight indicator with vernier and single pen weight indicator recorder, sealtite mud pump gauge, double vacuum gauge and rotary table tachometer. Another combination for use with steam rigs is the addition of a torque gauge to replace one of the above gauges. The recorder may be obtained in connection with the weight indicator, mud pump gauge or torque indicator.
(Check item 6 on coupon for more information.)

7—Electrode Holders

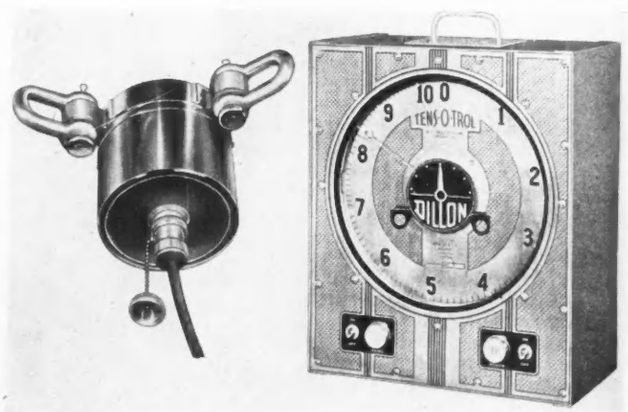
Tweco Products Company has announced a new line of manual arc welding electrode holders to be known as "Twecotong." These are the conventional tong-type holders, but feature the molded-laminated glass cloth Bakelite insulation keyed to the holder casting. Tensioning spring firmly seats on fibre upset washers and is protected from spatter by non-binding Neoprene tubing. The fibre handle is well insulated, and with good cable connections is said to assure a cool running holder. The full insulated or semi-insulated models are available



in 300 ampere, ¼-inch electrode capacity and 500 ampere, ⅜-inch capacity.
(Check item 7 on coupon for more information.)

8—Dynamometer

W. C. Dillon & Company, Inc., announces a new remote indicating dynamometer known as a "Tens-O-Trol," a new type of tension or weight-measuring instrument. Consisting of highly responsive, self-synchronous motors, the master transmitter and two repeater stations require only 12 volts D.C. The manufacturers claim that extreme temperature changes have no appreciable effect on the unit, and it does not depend upon springs or oil-filled mechanisms, nor does it require oiling at any time. It is said to withstand more than 100 percent overload without rupturing and will take a 25 percent overload without injury to the calibration. Sizes vary from 500-pound capacity up to 20,000-pound capacity. The transmitter dynamometers is equipped with two shackles onto which the load is connected. Wherever it is necessary to know the tension on cables or pulling mechanism, with remote indicator repeaters, this unit can be applied.



(Check item 8 on coupon for more information.)

9—Oxygen Mask

Mine Safety Appliances Company is producing a new oxygen mask, called the demand type oxygen mask, to provide respiratory protection for the wearer in unbreathable air. It is designed to safeguard the user under all operating conditions from ½-hour during hard physical exercise to approximately one hour if activity is moderate. Two types are available. One model has an oxygen cylinder containing 38.4 cubic feet of gas supported on user's back by a comfortable adjustable harness. A similar assembly is available with a front-type sling and utilizes an 11-cubic foot oxygen cylinder which is adaptable for shorter periods of protection. A breathing tube has quick-disconnecting fittings so that fresh air can be used during standby periods in order to conserve oxygen. A flow of cool oxygen under the lenses in the all-vision facepiece prevents fogging. A gauge is provided which is visible to the wearer at all times and indicates the amount of oxygen left in the cylinder.
(Check item 9 on coupon for more information.)

10—Truck

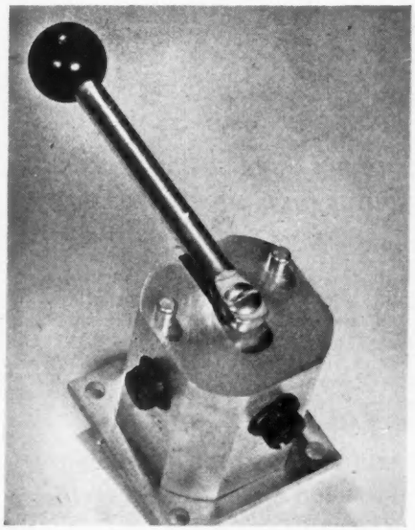
The Four Wheel Drive Auto Company announces a new 15-ton capacity six wheel drive M series FWD truck in two standard wheelbases is available for immediate delivery. The 1946 version of the M series of 6 x 6 truck is a development of earlier models used in the oil fields for heavy-duty hauling. Mounting winches or portable derricks for oil well drilling and servicing and hauling heavy equipment in off-the-highway work are a few of the features claimed by the makers.

This truck is available with either 243 or 276-inch wheelbase. The chassis weight of the unit is 21,000 pounds and gross weight is rated at 58,000 pounds. This model is built with either gasoline or diesel engines ranging from 150 to 198 horsepower.

(Check item 10 on coupon for more information.)

11—Control Valves

The Saval Company of California announces a new line of 3000 to 5000 pounds per square inch hydraulic and pneumatic control valves for industrial applications. The ¼-inch, four-way selector valve illustrated has a handle load of only 15 inch-pounds torque at 1500 psi pressure and 20 inch-pounds at 3000 psi. The total pressure drop is less than 30 psi at 3.5 gallons per minute flow. The exceptionally low handle loads and the leakproof characteristics of the hydro-shear valves are made possible by the shear-seal design and the use of ball bearings to reduce high frictional loads, according to the manufacturer. These features provide for finger-tip control of pressures as high as 5000 psi.



(Check item 11 on coupon for more information.)

12—Fog Unit

Bowser, Inc., has put into production a fog unit for fire fighting. Two models are being manufactured: Model 1030 has a shorter hose and smaller cabinet, and Model 1033 has 100 feet of one-inch hose. Operating off low-pressure water mains, the unit begins fogging four seconds after the nozzle is removed from the cabinet. Use of the fog reduces water damage in fire fighting to a minimum, it is claimed, and the operator is protected by the fog from the intense heat. These units, which are mounted on a swivel joint or stand pipe, make it possible for the cabinet to revolve in alignment with the direction of pull. They are also equipped with a standard solid stream nozzle.

(Check item 12 on coupon for more information.)

Literature

13—Flow Meter

The Bristol Company has released bulletin F1603 announcing the company's bellows-differential flow meter. The bulletin describes in detail the features of the bellows type differential meter body, which requires no mercury. A cross section drawing of the meter body clearly illustrates the unique method used to transmit bellows motion to the pen arm. The meter-body shaft is completely isolated from the measured fluid. Ranges available, both as recorders and controllers, are listed.

(Check item 13 on coupon for more information.)

14—Home-Built Welder

The Hobart Brother Company offers a 38-page book, "How to Build Your Own Gas Drive Welder." This book takes the reader through a progressive step-by-step plan, showing actual photographs, plans and ideas for the home builder. Realizing that all the parts as indicated in the book cannot, in some cases, be obtained, there is ample room left for the builder to supply himself with ideas to complete the assembly as outlined. Book EW-113 is available at no charge.

(Check item 14 on coupon for more information.)

15—Mud Treatment

American Cyanimid & Chemical Corporation has published a pocket-size booklet on "Chemical Treatment for Drilling Mud." This digest contains simplified discussions on characteristics of drilling muds, description of testing procedures, present practices for fast, safe, drilling with rotary tools, diagram of efficient surface system for handling drilling fluids, control methods relating to viscosity and water loss, a simplified description of chemical compounds that are used effectively in maintaining mud control and several pages of basic and important engineering data helpful in the treatment of drilling fluids.

A section devoted to the practical treatment and control of drilling mud gives general information and instructions in handling mud from the surface to deep holes in average wells, and lists several precautions in drilling through difficult zones such as "heaving shales" and salt caps.

(Check item 15 on coupon for more information.)

16—Protective Clothing

The B. F. Goodrich Company has published a ten-page catalog section of standard note book size covering the company's line of industrial protective clothing.

Pictured and described in the catalog section are the "V"-sealed raincoat, vinyl resin-coated work coat, industrial coat, general purpose work coat, regulation fire coat, plastic-coated protective sleeves, plastic-coated acid-proof apron, electricians' gloves, and other items.

(Check item 16 on coupon for more information.)

17—Shovel

Bucyrus-Erie Company has issued a 24-page bulletin describing the Dozer-Shovel for International TracTracTors. Colorfully illustrated with numerous photographs and pen drawings, the new bulletin graphically depicts actual operating conditions on a wide variety of digging, earthmoving and material-handling jobs. Special features of the Dozer-Shovel pictorially described are: low overhead clearance and general compact design for high maneuverability, high visibility, maintenance of tractor balance and smooth hydraulic control. Also illustrated is the interchangeability from shovel to bulldozer, and vice versa.

(Check item 17 on coupon for more information.)

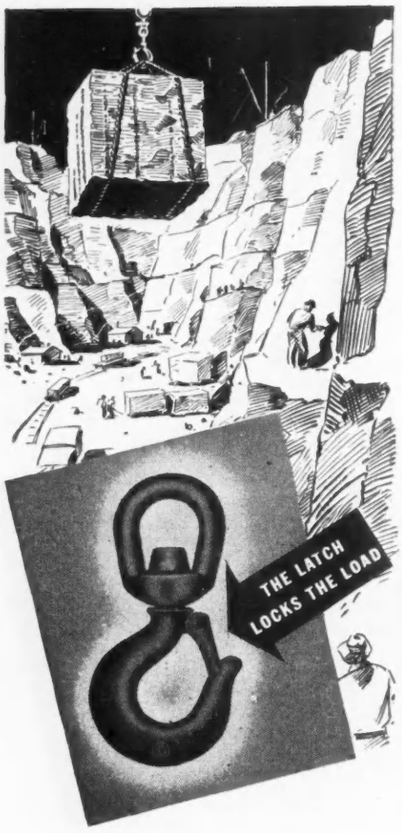
18—Pipe Threads

The Weatherhead Company has published an eight-page booklet containing information on the recently set up standard for improvement in pipe threads, known as dryseal pipe threads. The booklet explains what dryseal pipe threads are, how they work, and recommended practices. Included are charts and drawings which will be found interesting to engineers, designers and purchasing agents. The company announces that all Ermeto, inverted, SAE and compression tube fittings using a pipe thread on some portion of the fitting, will be supplied with dryseal pipe threads.

Reason for this change, it is announced in the bulletin, is to conform to the adoption of dryseal pipe threads by the automotive industry as standard on tube fittings.

(Check item 18 on coupon for more information.)

A HOOK *that* CAN'T LOSE ITS LOAD



The newly-designed latch (with stainless steel spring) gives Laughlin's unique Safety Hook a 25%-40% wider throat opening.

Don't chance accidents up above. Laughlin's Safety Hook keeps loads under control even if jolted in mid-air.

They are made of drop-forged steel, heat-treated. They're rugged. Get the details on these hooks with the improved type of latch.

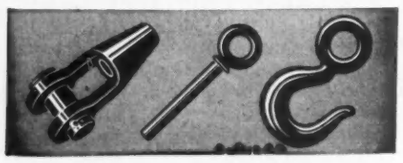
OTHER LAUGHLIN HOOKS

Laughlin offers the most complete line of hooks, including grab hooks, hoist hooks, cargo hooks and other types, all heat-treated, drop-forged and weldless.

Distributed through mill, mine and oil field supply houses. For catalog, write Dept. **6,** The Thomas Laughlin Company, Portland 6, Me.

LAUGHLIN

THE MOST COMPLETE LINE OF DROP-FORGED WIRE ROPE AND CHAIN FITTINGS



Panhandle Eastern Authorized To Pipe Gas Into Canada

The Federal Power Commission has authorized the Panhandle Eastern Pipe Line Company to export a maximum of 5½ billion cubic feet of natural gas yearly to Canada for sale to the Union Gas Company of Canada, Ltd., for a period of 20 years, and has approved the construction of facilities to provide the service, including a 16-inch pipe line from Allen Park, Mich., to the Canadian company's lines across the Detroit River, at a cost of $516,500.

The gas will be obtained from the Panhandle field, Texas, and the Hugoton field in Kansas, Oklahoma and Texas. The entire yearly movement is to take place between April 1 and October 31 of each year, and no deliveries will be permitted during November, December, January, February or March.

To provide for a winter supply, the greater part of the gas as delivered will be stored in Union's "Dawn field" underground storage facilities, for withdrawal as needed to meet peak-load requirements.

Southwest Emergency Pipe Line Passes to Private Ownership

Passing of the first war-built government pipe line into the hands of private operators was announced last week by the War Assets Administration as the Southwest Emergency Pipe Line, disposed of on a combination sales and lease basis to the Southwestern Independent Gas Pipe Line Company, a new affiliate in the Houston Gas System.

The 167-mile line from Refugio to Houston, operated during the war as a feeder for the Big Inch pipe line, has been operated since April 1 by the company under a temporary lease. The northern portion of the line is being sold outright, while the southern portion goes with it on a long-term lease carrying a purchase option. The line will be used to supply gas to industrial plants in the Houston area and the Magnolia Park section of the city.

The contract calls for the payment of $400,000 for the northern portion of the line, $58,000 for the unneeded facilities, and a rental of $25,000 a year for lease of ½ the capacity of the southern portion, together with a payment of ½ cent per 1000 cubic feet for additional gas delivered from the southern portion to the northern and 2 cents per 1000 cubic feet for gas sold locally from the leased portion.

35-Mile, Ten-Inch West Texas Line Authorized by Magnolia

Magnolia Pipe Line Company has authorized the installation of a 35-mile, ten-inch line, parallel to two eight-inch units, on the north portion of its West Texas trunk line system between Andrews station, Andrews County, and its Midland terminal.

The new unit will increase facilities for handling sour crude from the Slaughter, Wasson and Seminole fields and at the same time permit direct movement of sweet crude from the Fullerton-Union district to Midland. Pipe for this unit is slated to be delivered by mills late in May. Extra booster station equipment required to attain full capacity when the third unit goes into service will not be available for some months. The Latex Construction Company, Houston, was awarded contract to lay the Andrews-Midland unit, and also the 7½ miles of eight-inch loop previously announced for the company's Fullerton-Andrews multi-unit line.

Wood River Firm Plans 70-Mile, Eight-Inch Line in Illinois

The Wood River Oil and Refining Company, Inc., Wichita, Kansas, will build a 70-mile, eight-inch line connecting its new marine terminal at Peru, Ill., with another at Rockford, Ill.

The terminal at Peru will have adequate docking facilities to unload petroleum products from river barges into storage before they are pumped through the line to the Rockford terminal. These new facilities will serve a territory which heretofore had to rely on long haul rail transportation for its petroleum products.

It is estimated that the overall project will cost about $1 million and will be ready for operation by the end of this year.

Wood River owns and operates a refinery on the Mississippi River at Hartford, Ill.

Socony's Application to Lay Kansas Pipe Line Is Denied

The Kansas Corporation Commission has denied application by Socony-Vacuum Oil Company for a certificate of public convenience and necessity to install an eight-inch pipe line connecting the Morel, Marcotte and Palco pools in Graham and Rooks counties, northwestern Kansas.

40-Mile Line from Tinsley Field, Mississippi, Planned

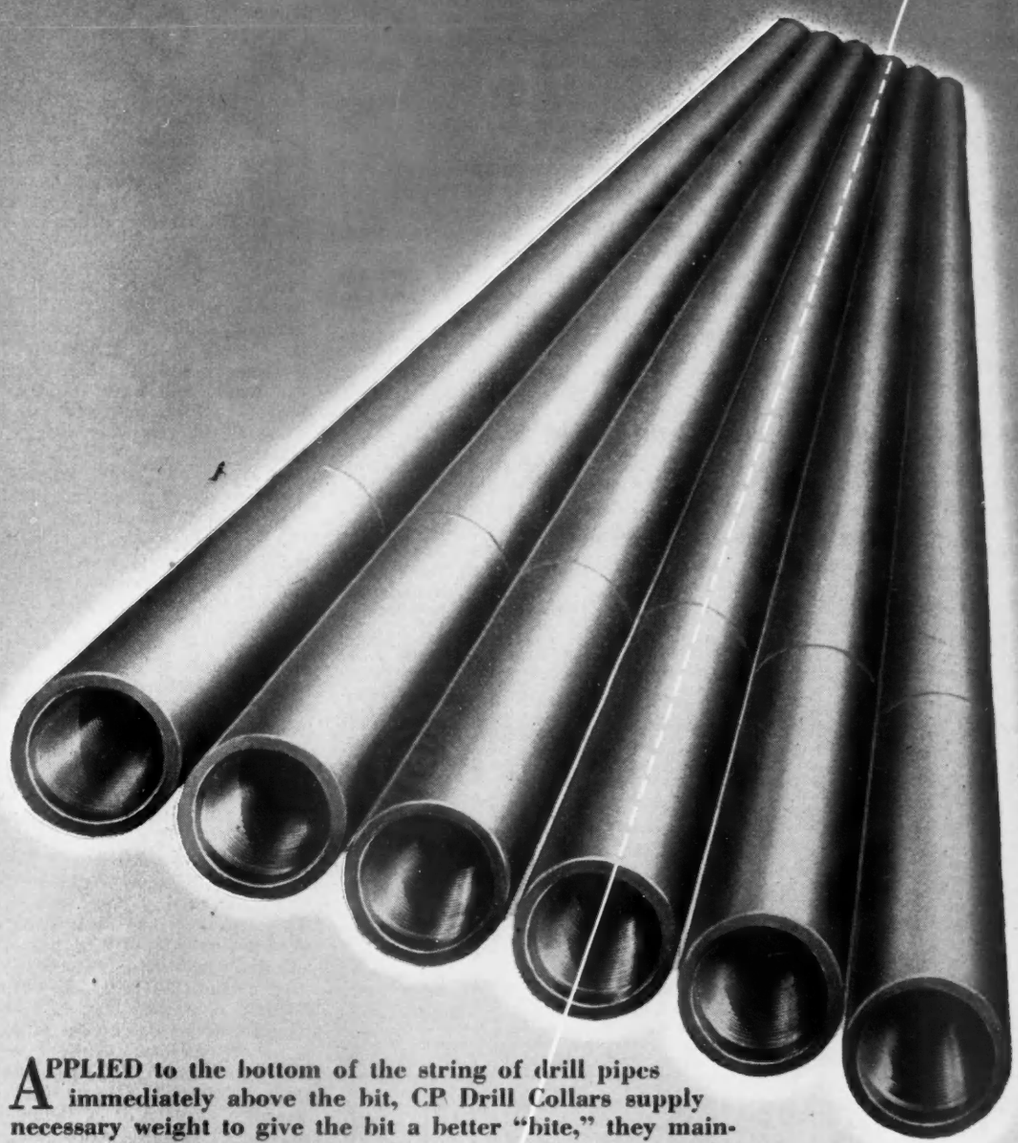
A pipe line planned for Mississippi by Sohio Petroleum Company will extend about 40 miles from the Tinsley field in Yazoo County to Mayersville in Issaquena County. One booster station will be erected to force the oil to its Mississippi River destination, after which it will be shipped north to the company's refinery.

To Move Tanks

The Atlantic Pipe Line Company has awarded contract for the removal of two 80,000-barrel steel tanks at its Wink tank farm in Winkler County sector of West Texas to the Block 31 field, Crane County, where The Atlantic Refining Company is engaged in a major drilling program. The tanks will be equipped with breather-type roofs to accommodate the 47-gravity oil produced from the Devonian and Ellenburger zones. The Block 31 area is served by The Texas-New Mexico Pipe Line Company.

for

Straighter Holes... keep drill stems straight!



APPLIED to the bottom of the string of drill pipes immediately above the bit, CP Drill Collars supply necessary weight to give the bit a better "bite," they maintain the drill pipe in tension, keep the drill stem straight and increase the life of drill pipe and tool joints. Made of heat-treated alloy steel. You can depend on their hardness, straightness, concentricity and accurate machining.

Available in 30 foot lengths, in popular sizes from stock in Oklahoma City.

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Runs to Stills, Crude Production Down; Gasoline, Distillate Fuel Output Up

Crude runs to stills and crude production were reduced during the week ended April 27, while the output of gasoline and distillate fuel oil showed considerable increase.

Withdrawals from gasoline stocks continued at the rate of over 1½ million barrels per week as market demands for this product increase, while additions of almost 1½ million barrels were made to the combined stocks of light and heavy fuels. The American Petroleum Institute revealed these trends in its latest weekly report.

An average of 4,672,000 barrels of crude oil per day was produced in the United States during the week ended April 27, which is 14,000 barrels under the previous week's average and 133,000 daily less than the output of the comparable week of last year.

Crude runs to refinery stills amounted to 4,685,000 barrels daily for the week, a decrease of 104,000 per day from last week and 130,000 daily, or 2.7 percent, from the like week of 1945.

Stocks of refinable crude oil were reported by the U. S. Bureau of Mines to be 221,689,000 barrels as of April 20, showing an increase of 429,000 barrels during the 7-day period. Current crude stocks are 1,240,000 less than the 222,929,000 barrels held April 21 of last year.

Gasoline output, including natural blends, totaled 14,228,000 barrels during the week, an increase of 199,000 barrels over last week's production, but 737,000 barrels, or 4.9 percent, under last year's 7-day period. Total withdrawals from gasoline stocks amounted to 1,528,000 barrels during the week just passed, and brought current stocks down to 99,631,000 barrels. These stocks are 7,650,000 barrels, or 8.3 percent, higher than the 91,981,000 barrels on hand a year ago.

Distillate fuel oil production increased 357,000 barrels over the previous week, bringing the week's output to 5,568,000 barrels, which is 876,000 barrels, or 18.7 percent, higher than production during last year's week. Distillate fuel stocks were increased by 182,000 barrels during the week, and now stand at 30,466,000 barrels, which represent an increase of 1,664,000 barrels over stocks on hand a year ago.

A drop of 26,000 barrels from the previous week occurred in the production of residual fuel oil, as the output during the week just ended totaled 9,204,000 barrels, which is still 112,000 barrels more than was produced during the comparable week of last year. An addition of 1,280,000 barrels were made to residual stocks during the past 7 days, bringing them to 39,404,000 barrels. These current heavy fuel oil stocks fail to match last year's 39,891,000 barrel inventory by 487,000 barrels.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod.		Runs to Stills		Crude Stocks		Gasoline Stocks		Gasoil and Distillate Stocks		Residual Fuel Oil Stocks	
	Barrels Daily	Week Ended	Barrels Daily	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended	Barrels	Week Ended
Highs:												
1941	4,337	11–22	4,120	10–18	266,187	3–29	99,727	3–29	[1]54,983	11–15	102,448	1– 4
1942	4,337	2– 7	3,961	1– 3	263,208	3–28	[1]109,281	3–14	47,861	11–14	95,857	1– 8
1943	4,436	11–13	4,331	12– 4	245,752	5–29	94,159	3–20	47,187	11–27	72,881	1– 2
1944	4,762	9–30	4,798	12–30	240,992	1– 1	89,162	4– 1	48,162	10–28	64,744	10– 7
1945	[1]4,944	7–14	[1]5,140	8–18	227,554	10–13	99,012	3–24	45,341	11–17	56,074	1– 6
1946	4,726	3– 2	4,789	4–20	229,430	3– 2	105,233	2–16	35,199	1– 5	42,371	1– 5
Lows:												
1939	[3]1,601	8–26	3,125	2–18	[2]229,127	10–12	71,152	10– 7	20,722	4–15	105,397	4– 3
1941	3,364	1–11	3,490	1–18	240,399	11–15	79,923	10– 4	28,382	4–12	90,914	7–13
1942	3,297	7– 4	3,393	5–23	231,896	12–12	75,934	12– 5	29,240	4–25	72,962	12–26
1943	3,821	1– 9	3,579	3–18	232,191	1– 9	68,182	10–16	30,732	4– 3	57,596	12–25
1944	4,357	1– 1	4,228	2–12	220,258	9– 9	76,302	1– 1	30,232	4–19	49,737	3–18
1945	3,621	10– 6	3,409	10– 6	[4]211,813	8–25	70,791	10–13	26,483	3–17	38,548	5–26
1946	4,403	3– 9	4,498	1–12	218,193	1– 5	98,494	1– 5	25,131	3– 9	37,289	4– 6

TRENDS OF 1945 AND 1946

Trends in Week Ended	Crude Oil			Gasoline		Gasoil and Distillate		Residual Fuel	
	Production Daily	Runs to Stills Daily	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End	Production Weekly	Stocks Week End
1945:									
January 27	[1] 4,727	4,756	221,310	14,957	88,223	4,843	33,561	9,252	51,119
February	4,777	4,803	219,351	15,500	95,972	4,958	28,753	9,084	46,713
March 31	4,781	4,677	223,782	14,644	98,758	4,548	26,889	9,184	41,745
April 28	4,805	4,780	223,474	14,633	94,068	4,636	28,273	9,379	39,813
May 26	4,887	4,950	222,831	15,194	89,121	4,667	29,184	9,670	38,548
June 30	4,903	4,999	220,781	15,546	86,472	4,910	32,213	9,077	40,488
July 28	4,930	4,996	218,507	16,106	86,008	4,598	36,071	9,586	42,283
August 25	4,982	4,931	[4]211,813	15,986	84,693	4,960	39,782	9,356	46,201
September 29	4,357	3,812	222,387	11,913	79,552	3,940	43,689	7,047	46,853
October 27	4,273	4,838	224,230	15,530	74,335	5,159	43,472	8,691	45,943
November 24	4,469	4,648	219,363	15,681	83,184	4,802	45,258	8,800	47,474
December 29	4,474	4,729	218,918	14,546	95,205	5,055	36,651	8,765	42,447
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,293	35,199	8,867	42,371
January 26	4,626	4,553	220,544	13,622	101,737	5,720	29,498	8,411	39,722
February 23	4,714	4,595	226,699	13,175	104,709	5,728	25,398	7,913	39,290
March 30	4,425	4,684	224,994	13,896	104,715	5,357	28,240	8,738	37,746
April 6	4,446	4,523	221,214	13,718	104,226	5,060	29,253	8,401	37,289
April 13	4,691	4,636	221,260	13,351	102,581	5,265	30,047	8,608	37,862
April 20	4,686	4,789	221,689	14,029	101,159	5,211	30,284	9,230	38,124
April 27, 1946	**4,672**	**4,685**	.....	**14,228**	**99,631**	**5,568**	**30,466**	**9,204**	**39,404**
April 28, 1945	4,805	4,815	[5]222,929	14,965	91,981	4,692	28,802	9,092	39,891
Change:									
In week	—14	—104	+429	+199	—1,528	+357	+182	—26	+1,280
In year	—133	—130	—1,240	—737	+7,650	+876	+1,664	+112	—487
In year	—2.8%	—2.7%	—0.6%	—4.9%	+8.3%	+18.7%	+5.8%	+1.2%	—1.2%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922 due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, April 21, 1945.

J. T. Goodman Named Chairman Of Mississippi Committee

Joe T. Goodman of Gulf Refining Company, Shreveport, was elected general chairman of the Mississippi Oil and Gas Engineering Committee at the second annual meeting of the organization. Alex Crowell was reelected director of the committee by the executive committee. Goodman succeeds D. V. Carter of Magnolia Petroleum Company.

Other officers elected were W. F. Dalton, Hunt Oil Company, vice chairman; James P. Evans, Jr., Jackson, secretary-treasurer. J. D. Davis, Union Producing Company, was reelected chairman of the executive committee.

The executive committee includes W. F. Eiting, The Carter Oil Company; J. T. Raynolds, Sohio Petroleum Company; J. S. Boldrick, Humble Oil & Refining Company; A. S. Rhea, Sun Oil Company; J. C. Phillips, Gulf Refining Company; and D. V. Carter, Magnolia.

A. M. Billings of Fair & Billings, A. E. Clapp of Sample & Mucher, and G. W. Pirtle of Hudnall & Pirtle were admitted as new members of the committee.

Tankers Are Returned

Nearly 600 vessels which have been under charter to the War Shipping Administration, more than half of them tankers, have been returned to their owners, it was reported last week by the WSA.

☆ Oklahoma

Carter's Wildcat Is Opening Oil Pool in McClain County

Carter's McClain County wildcat is opening oil pool; Oakwood outpost drilling; Garvin County to be center of state drilling activity; California exhausting water at Love County wildcat; new Coon Creek pool gets second well; Skelly passes gasser at Velma area well.

McClain County: Having established production in 2 zones, The Carter Oil Company's Thompson 1, C NE SE 36-8n-4w, pool opener south of Blanchard, will test a third zone before the well is completed. After showing for 150 barrels of oil a day in the Viola lime, casing was perforated in the Chimney Hill zone of the Hunton lime at 9970-10,003 feet, and the well did 20 barrels of oil an hour. After acidizing this zone with 10,000 gallons, the wildcat flowed 72 barrels of oil in 2 hours through ⅛-inch choke. Operators plan to plug this zone after testing it thoroughly and test the Bois d'Arc zone of the Hunton lime. The wildcat was drilled to the Bromide at 10,592 feet.

Dewey County: The Oklahoma Natural Gas Company was drilling at Oakwood Unit 1, NW NW NW 6-17n-14w, near the Oakwood townsite. Operators were to set 9-inch pipe in the Oswego lime to protect a good show of oil and gas in the lower Tonkawa sands. Five drill-stem tests were made in this sand zone, called at 7977 feet, and 2 showed enough gas and oil-cut mud to pay off. Another test recovered gassy oil-cut mud and the other two were failures.

Garvin County: Recently discovered pools in Garvin County will be developed in the near future and a wildcat play west of the meridian in the county points to much activity for this area. The Carter Oil Company located Eskridge 1, NE NW SW 19-4n-2w, in the new pool opened by the McBride 1. Harry Hollenback is expected to start a well by May 22 on a Continental Oil Company farmout in 32-4n-2w.

Love County: Water has apparently been exhausted at The California Company's Wright 1, C NE NW 13-8s-1w, wildcat near Red River. With casing perforated at 6175-6200 feet and 6240-70 feet, the well swabbed some oil and water on its initial test. While waiting for swab after this initial test, the well flowed 16 barrels of clean oil in 10 hours. The wildcat was drilled to 7383 feet and tested 3 barrels of oil through perforations at 6570-97 feet before plugging back to the second zone.

Oklahoma County: The new Coon Creek pool of Oklahoma and Logan counties has its second producer at Sinclair Prairie Oil Company's Sexauer 1, NW NW NE 3-14n-1w. This well flowed 477 barrels in 7¾ hours through ½-inch choke and was shut in for tanks. The first offset to the Teuscher discovery well, the Sexauer had the Wilcox at 5902 feet, set casing to 5953 feet, and perforated from 5918-46 feet.

Frank Russell's Griffin 1, SE SE NW 33-15n-1w, 1 mile northwest of the Teuscher, was abandoned as dry.

Stephens County: Skelly Oil Company had a gas well flowing 14 million cubic feet of gas daily at the Frensley J-3, SW NW NW 24-1s-5w, but squeezed off the gas to continue drilling in the search for oil. The casing was perforated at 3318-38 feet where the gas flowed.

Nebraska

John Peters and associates have located Prichard 2, SE SE 20-1n-16e, Richardson County, in the south part of the Falls City pool. This well will be a southeast offset to the Prichard 1, drilled in 1940 and cleaned out recently to pump 35 barrels of oil per day. The B & T Drilling Company has contract for the second well and is moving in rotary tools.

Missouri

Charles Walters et al's Bush-Pickering Ranch 1, SW NE 29-46n-32w, near Harrisonville, Cass County, was dry and abandoned in granite at 2542 feet.

J. E. Palensky's Wallace 1, SW NW NW 10-65n-35w, Nodaway County, 10 miles northwest of Maryville, was dry and abandoned at 2211 feet. This wildcat was spudded in November with rotary tools.

☆ Kansas

Pool Opener in Rush County Is Shut Down for Potential

Rush County pool opener shut down for potential; attempt to extend Cromb pool production to north fails; Hugoton field gets 3 gassers; offset to Logan pool discovery staked; 2 Rooks County wildcats abandoned as dry holes.

Rush County: A new pool opener to be given potential is Darby & Bothwell's Wagner 1, NE NE NW 28-18s-16w, 2 miles southwest of the Albert pool. The well swabbed at the rate of 15 barrels of oil an hour from 3644 feet in the Reagan sand, topped at 3623 feet. Darby & Bothwell have also staked Ficken 1, NE NE SE 33-17-17w, wildcat adjacent to the Bison townsite, Rush County, also Reagan sand test.

Ellis County: The Keys Drilling Company's attempt to extend production north in the Cromb pool, extreme northwest corner of the county, failed when King 1, SE SE SE 16-11s-20w, was completed as a dry hole. After drilling to 3730 feet, operators perforated pipe in the upper section of the Lansing lime

Wells Completed in the United States in Week Ended May 4, 1946

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second or third issue of each month. More detailed data on wildcats published in third or fourth issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS This Week	Last Week	Cumulative This Year	Cumulative Last Year
Alabama	....	....	....	....	....	....	....	....	....	....	....	1	6	7
Arizona	....	....	....	....	....	....	....	....	....	....	....	1	1	.....
Arkansas	4	....	....	....	4	....	....	....	1	1	5	2	61	47
California	25	1	....	2	28	1	1	....	3	4	33	37	628	685
Colorado	6	....	....	....	6	....	....	....	....	....	6	5	40	11
Florida	....	....	....	....	....	....	....	....	1	1	1	....	7	4
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	1	3
Illinois	22	....	....	8	30	1	....	....	6	6	37	34	654	552
Indiana	3	1	....	1	5	....	....	....	2	2	7	5	113	94
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Kansas	21	3	2	5	31	1	1	....	3	4	36	27	676	504
Kentucky	9	....	....	4	13	....	....	....	1	1	14	7	177	153
Louisiana	15	....	....	4	19	1	7	1	1	9	29	10	414	329
North Louisiana	10	....	....	....	10	....	1	1	1	3	13	10	213	102
South Louisiana	5	....	....	4	9	1	6	....	....	6	16	....	201	227
Michigan	4	....	....	3	7	....	....	1	2	3	10	19	229	250
Mississippi	2	....	....	....	2	....	1	....	1	2	4	4	77	127
Missouri	....	....	....	....	....	....	....	....	2	2	2	....	7	15
Montana	....	....	....	....	....	....	....	....	2	2	2	9	79	65
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	....	2
New Mexico	4	....	....	1	5	....	....	....	1	1	6	2	130	165
New York	15	....	10	....	25	....	....	....	....	....	25	26	357	330
Ohio	6	....	....	4	10	....	....	....	....	....	10	7	313	264
Oklahoma	11	2	2	13	28	....	2	....	3	5	33	46	849	774
Pennsylvania	27	2	15	1	45	....	....	....	....	....	45	55	954	977
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	2	1
Texas	85	4	1	28	118	2	8	1	24	33	153	156	2,707	2,451
E.Tex.Bor. Co.'s	1	1	....	....	2	....	....	....	....	....	2	2	52	28
Rest of E. Texas	8	....	....	1	9	....	....	....	2	2	11	13	184	68
North Texas	20	....	1	19	40	1	1	....	10	11	52	53	774	537
W. Central Tex.	3	....	....	4	7	....	....	....	6	6	13	7	204	160
West Texas	21	....	....	1	22	1	2	....	4	6	29	36	564	643
Tex. Panhandle	4	....	....	1	5	....	....	....	....	....	5	4	149	216
G. Coast, Upper	5	....	....	1	6	....	2	....	1	3	9	9	242	244
G. Coast, Lower	18	3	....	....	21	....	1	....	....	1	22	15	355	350
Southwest Texas	5	....	....	....	5	....	....	1	....	1	6	15	136	177
S. Central Tex.	....	....	....	1	1	....	2	....	1	3	4	2	47	28
West Virginia	....	11	....	3	14	1	....	....	....	....	15	11	249	256
Wyoming	6	....	....	....	6	....	....	....	....	....	6	1	49	57
Total U. S.	265	24	30	77	396	7	20	3	53	76	479	465	8,780	8,124

* Includes distillate wells. † Includes salt water disposal wells.

to get salt water. Lansing was topped at 3376 feet and Arbuckle at 3680.

Grant County: Hugoton gas field was given 3 wells by Columbian Fuel Corporation. Finchman 1, NE NE SW 19-28s-35w, made 13,600,000 cubic feet of gas in an open flow test at 2772 feet. Rede 1, NE NE SW 20-28s-35w, produced 13,792,000 cubic feet; and Fry 1, SE SE NW 21-28s-35w, was completed for 21,600,000 cubic feet from sand at 2773 feet. All 3 wells were treated with acid.

Phillips County: A west offset to the discovery well in the Logan pool has been staked by Helmerich & Payne and Tide Water Associated Oil Company. The Bowman "A" 2, the new test, is in SW NE SW 3-5s-20w. The discovery well of the pool, Bowman "A" 1, NW NW SE 3-5s-20w, was completed in March for a daily potential of 200 barrels of oil from the Lansing lime.

Rooks County: Rooks County wildcats were abandoned by Tom Palmer and by the J. M. Huber Corporation. Huber's Ordway 1, NW NW NE 20-10s-18w, 2 miles east and ½ mile south of the Vohs pool, was abandoned at 3835 feet. Markers were the Topeka 3153 feet, Heebner 3371, Lansing 3408, Simpson 3787, and Arbuckle 3815. Tom Palmer's Lorbeer 1, SW SW SW 28-7s-19w, was abandoned after drilling to 3378 feet. Top of the Arbuckle was marked at 3342 feet and 5-inch pipe was set at 3345 feet to test the first 5 feet of the Arbuckle that showed some saturation. The well failed to recover any oil after acid treatment and the operator abandoned.

☆ West Texas

Andrews County Has Important Oil Strike from Fullerton

Andrews County scores important oil strike from the Fullerton, or Clear Fork lime; Basal Permian production uncovered in Dollar Hide field; Doss field has shallower pay; Kent County's first well given official gauge.

Andrews County: The Superior Oil Company et al's Coopwood 1, C NE NE PSL 4, Block A-47, mile south of the discovery for the South Fullerton-Devonian field and a mile north of a 10,118-foot failure, set pipe to complete through open hole from Clear Fork (Fullerton) saturation at 6855-7000 feet. A drill-stem test at 6974 feet yielded oil flow, and a test at 7000 feet showed gas to surface within 3 minutes, and a flow of 260 barrels of 42-gravity oil, with gas-oil ratio 1600/1, on 5-hour test through drill pipe. Coopwood 1 correlates 44 feet high to the Devonian well a mile north, and about flat with the 3 offset Devonian wells 2¾ miles northwest. This trio of Devonian wells passed up indicated flowing production from the Clear Fork. An expansive area is now open for Clear Fork development.

Phillips Petroleum Company's University 1-M, C SW SE Sect. 31, Block 13, and the highest structurally of the wells in the South Fullerton-Devonian field, flowed 790 barrels of 45-gravity oil natural on 14-hour test through ¾-inch choke from 3 zones of perforations, aggregating 310 feet, at 8355-8700 feet. The Devonian and effective pay was entered at 8297 feet.

Union Oil Company's Cowden 2, north offset to the Dollar Hide field discovery, recovered 840 feet of oil and gas-cut mud at 6810-7093 feet. Second test at 7337-7446 feet yielded gas to surface within 7 minutes for a calculated flow of 1 million cubic feet daily, and flowed oil by heads in pulling drill-stem. This production is from the Basal Permian, as the Clear Fork (Fullerton) zone is higher, while the 2 flowing producers tested nominal showings from this upper zone. Magnolia Petroleum Company's Cowden 1-B, ⅞ mile northeast outpost and an Ellenburger project, was drilling by crooked hole, while bottomed at 7266 feet.

Shell Oil Company's Nelson-Humble 1, Ellenburger discovery on the west side of the county, was drilling on junk at 10,489 feet. This wildcat flowed 1056 barrels of fluid, averaging 95 percent oil and balance basic sediment and water, on 22-hour test through ½-inch choke, with uncased hole below 10,384 feet. The company's Pinson-Humble 1, ¾ mile southwest, was drilling at 3580 feet. Humble's Gaines 1, 4½ miles north by west of the discovery, was drilling lime at 6760 feet, while its Sims 1.3 miles north and originally abandoned at 9438 feet, was drilling lime and chert at 9490 feet.

The Atlantic Refining Company-Pete Wiggins and Ed Hyde's University-Texu 1-A, C SE NE Sect. 9, Block 12, reworked 10,760-foot Ellenburger failure, showed considerable gas after swabbing Devonian perforations at 8750-8890 feet and 9015-9140 feet, and was acidizing. It is 7 miles southwest of the South Fullerton-Devonian field, nearest production. If a commercial well occurs, numerous tests will be started on the quarter-section tracts due to expire November 14 unless productive.

Ector County: The Texas Company's T.P.-Fraser 1-E, ½ mile east extension to the TXL field, flowed 1921 barrels of 44-gravity oil, with gas-oil ratio of 1203/1, on natural test through ½-inch choke from open hole at 9530-9820 feet in Ellenburger. It correlates 63 feet low, and was completed in 5 months and 5 days.

Gaines County: Humble Oil & Refining Company's Doss 1, C SW SW PSL 1, Block A-24, ¾ mile north by west of 7100-foot production in the Doss pool, established shallower oil zone in pumping 187 barrels of 29.2-gravity oil, plus 20 percent water, after multi-stage acid treatment of perforations at 6040-472 feet. This outpost was plugged back from 7181 feet after testing water in the regular pay. It is producing from the Upper Clear Fork.

Amerada Petroleum Corporation's Jones 1-B, third producer for the Jones Ranch field and ½ mile west of the discovery, swabbed 151 barrels, averaging 11 percent salt water, on 24-hour test after acidizing perforations at 11,405-420 feet in Devonian, topped at 11,342 feet. This was a test job to locate the water level, and perforations were squeezed, and the well will be perforated from 11,405 feet to top of the pay for completion. The company has started Jones 1-D and is moving in on Tannehill 1, ¾ mile northwest outpost and in Yoakum County.

Kent County: Humble's Vick 1, first producer for the county and 105 miles west by north of nearest Ordovician production, flowed 214 barrels of 38.6-gravity oil, averaging 3.3 percent bs&w, with gas-oil ratio of 290/1, through ¼-inch choke for completion. Tubing pressure dropped from 15 to 5 pounds, while casing was sealed. This flow is from perforations at 7775-810 feet in Ellenburger, topped at 7773 feet, and the section was acidized with 2000 gallons. The yield and pressure are low for this class of producing zone. Humble is starting a test ½ mile west, while American Liberty Oil Company will drill 1⅜ miles northwest.

☆ North Texas

Knox County Deep Oil Strike To Accelerate Exploration

Deep oil strike in Knox County will accelerate exploration on the west side of the North Texas district; Daume field, Archer County, expanded southeast, and is most active area in the district; Archer County has new Strawn area.

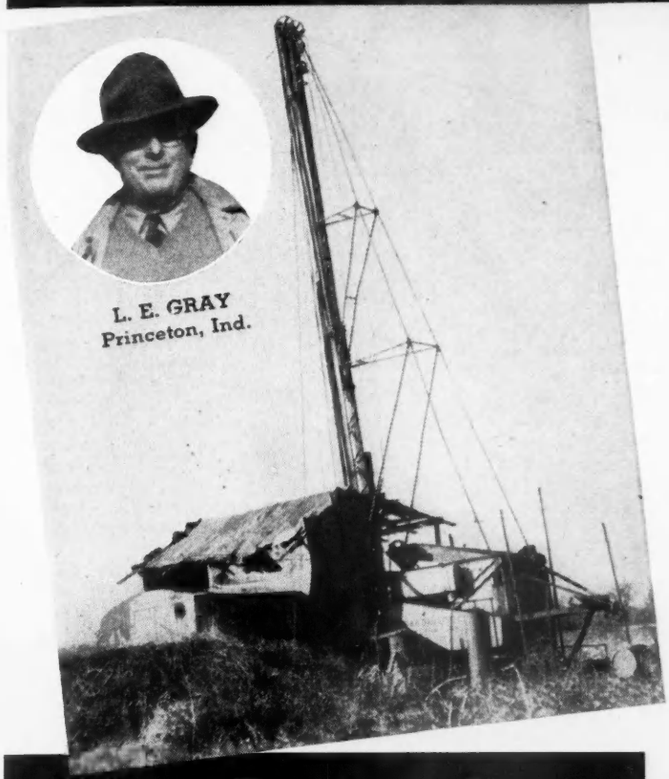
Knox County: Cities Service Oil Company's Doris Mulkey 1, C NW NW H&TC Ry. 163, Block, 44, and 2 miles south of Truscott, indicated probable commercial production when a drill-stem test of soft oil-saturated lime at 6233-42 feet yielded oil and gas, with shut-in bottom-hole pressure building up to 2400 pounds in 10 minutes. The well produced gas to surface within 4 minutes of the 30-minute test, and the recovery consisted of 270 feet of oil and 60 feet of oil-cut mud. This showing warrants the setting of pipe for completion try after the Ellenburger is explored as originally planned. No additional tests were made in drilling to 6490 feet.

The producing zone encountered by Mulkey 1 is tentatively identified as the Mississippian. The Gunsight was called at 3375 feet and Canyon at 4014 feet, with elevation of 1569 feet. Unidentified solid lime was entered at 5980 feet and again at 6055 feet. The area embraces a geophysical high, with possibly 155 feet of closure, that has been known for 10 years. Roeser & Pendleton, Inc. and I.T.I.O. Co.'s Beavers 1, northeast offset to Mulkey 1, was abandoned in 1938 as a 4610-foot failure in Canyon shale. Cities Service obtained its leases last year. A larger block is held to the south and west by Sinclair Prairie Oil Company.

Foard County: Magnolia Petroleum Company's Steele 1, which showed promise of making a pumper from Basal Pennsylvanian conglomerate at 5320-36 feet after plugging back from Ellenburger at 5630-82 feet, has been abandoned. Seaboard Oil Company and Shamrock's Speck 1, a 6500-foot prospect, was drilling shale at 6620 feet. The Mississippian, topped at 6120 feet, proved barren.

Archer County: G. E. Kadane & Sons' Wilson 1, Sect. 126, ATNCL, extended the Daume sand area ¾ mile southeast with potential flow of 520 barrels of 43-gravity oil through ½-inch choke after a 60-quart nitro shot in the Strawn sand at 4100-20 feet. This outpost is ½ mile southwest of the East Holliday sector of the Daume field, which extends east-west 2¾ miles and north-south for a maximum of 1⅝ miles. The field is currently the most active drilling area in the district, with more than a score of semi-proved locations in the east extension, which produces from the 4000-foot

6198 FEET



L. E. GRAY
Princeton, Ind.

Top-to-Bottom with a Bucyrus-Erie 36-L Spudder

There's a story of real reserve in the 6198-foot wildcat recently drilled with a Bucyrus-Erie 36-L by L. E. Gray of Princeton, Indiana, on the L. D. Brown Inc. lease in Section 16-1S-11W, Gibson County, Indiana. Drilled to a depth far beyond the machine's rated capacity (we recommend using the 36-L on drilling and servicing only to 3500-foot maximum), the Gray well vividly attests to the great reserve of strength and power built into Bucyrus-Erie spudders, so that, if their use is restricted to recommended depths, they will deliver outstanding performance throughout a long life. Of the 36-L's performance (see casing log), Mr. Gray says: "At 6100 feet and swinging 8600 pounds of tools and cable, the 36-L handled the drilling easily and efficiently . . . nothing to it . . . the 36-L had plenty of power at all times." There's a spot in your operations for a big capacity, versatile, highly mobile Bucyrus-Erie Spudder! Get in touch with your distributor (see list below) for complete details on the 36-L, 28-L and 24-L models.

13545

The Casing Log

(All loads run over regular spudder derrick which was equipped with extra casing strut but was not reinforced with shear poles.)

Depth Set	O.D. Casing	Wt. Per Foot
140′	15½"	90 lb.
700′	12½"	50 lb.
1200′	10 "	41.85 lb.
1584′	8 "	28 lb.
2089′	7 "	20 lb.
4640′	5½"	15 lb.

BUCYRUS ERIE

SOUTH MILWAUKEE, WISCONSIN

Bucyrus-Erie Spudders are Distributed by:

IVERSON TOOL CO. . . . . Tulsa, Okla.; Odessa, Tex.; Artesia, N. M.
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THE STRAKER SUPPLY . . . . . Mt. Pleasant, Mich.
GREAT NORTHERN TOOL & SUPPLY CO. . . . Billings, Kevin and Cut Bank, Mont.; Casper, Wyo.
GROSS SUPPLY CO. . . . . El Dorado, Kan.
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Parkey (Strawn) sand and also the 4100-foot oolitic lime. There are 42 flowing and pumping wells in the 2-pay Strawn field, and 25 were completed this year.

L. T. Burns et al's Wilson 5-P, Sect. 115, A.T.N.C. Lands and offset to a shallow wildcat producer, opened new Strawn zone in pumping 17 barrels of 40-gravity oil and 12 barrels of water from perforations at 3879-3902 feet, having plugged back from Bend at 4862-92 feet.

☆ East Texas

Humble's Smith County Strike To Touch Off Drilling Program

Western Smith County oil discovery on the Mount Sylvan prospect makes natural flow from perforations opposite the top 13 feet of 53-foot pay zone. A major drilling program in store for the area, while numerous independents have acquired small tracts nearby and outlying from the discovery by Humble Oil & Refining Company.

Smith County: Humble Oil & Refining Company's Pool 1, Wm. Saunders Survey and 7.4 miles southeast of the Van field, was placed on production as a natural flowing well May 1 after being idle since January to cure titles on the company's large supporting block. The well flowed an average of 14½ barrels of fluid, including 36 percent rotary mud and water, per hour during the first 12 hours while cleaning itself through ¼-inch tubing choke. The oil tested 33 gravity, and dark brown in color to indicate it is a typical Paluxy asphalt type of crude. The gas-fluid ratio was calculated at 130/1, while working pressure on tubing and casing was 280 and 300 pounds, respectively. A greater oil and gas yield is anticipated when the well cleans itself of rotary fluid.

This initial deep test for the Mount Sylvan geophysical prospect touched off a major lease and royalty play when the Paluxy oil-saturated zone was drilled and cored a month earlier. Although official information was withheld, lease and royalty buyers moved in and bid proved-acreage prices for every tract or fractional interest available. Prices failed to subside when the well was cased and shut in.

Humble's discovery logged the Paluxy pay at 7339-92 feet, with elevation 454 feet. Formation water was encountered at 7416-49 feet, and drill-stem test at 7428-40 feet yielded the water-blanker, 213 feet of rotary mud and 5095 feet of salt water. The well was drilled to 7668 feet in barren Glen Rose, topped at 7634 feet, prior to cementing 5½-inch at 7503 feet. Perforations were made last midweek at 7339-52 feet for completion.

Edward Pace and Gordon MacLean's Johnson 1, Andrew Kent Survey and ¾ mile southeast of the Pool discovery, was drilling shale at 6010 feet, and correlating favorably for production. The owners of this 40-acre drilling site were credited with negotiating with a major purchaser and that a deal was within $40,000 of agreement on value. Other Paluxy producing areas in the district with pay section comparable to Pool 1 have a high crude yield per acre, although the majority of the areas yield low-gravity asphalt grade of oil. The exception in quality of oil is the Quitman field, Wood County, as the latter ranges from 41 to 43 gravity.

Ownership of leases on the Mount Sylvan prospect is such that competitive drilling is inevitable. Substantial acreage is held by Sinclair Prairie Oil Company, while Skelly Oil Company, Stanolind Oil & Gas Company, The Texas Company, Magnolia Petroleum Company and Sun Oil Company are represented. Independents have filed application for permits to drill more than a dozen tests in Smith and Van Zandt counties in hope of obtaining Commission approval before field spacing rules are adopted. Nearest pipe line is the Pure Oil Company's 10-inch from Van field to the coast, while Humble Pipe Line Company has a 6-inch discharge line from the Sand Flat field, Smith County, to its Hawkins-Shreveport carrier.

Wood County: W. F. Bridwell and Bobby Manziel's Coker 1, ½ mile north of Crow and a Paluxy prospect, was drilling lime at 7120 feet, having entered the Fort Worth lime at 7010 feet with elevation of 462 feet.

Henderson County: Lone Star Producing Company's Hearne-Magnolia 1, which showed for the second oil producer from the Rodessa on the north flank of the Opelika gas-distillate field, was drilling lime and shale at 9155 feet to try for gas-distillate in the Pettit for a dual completion.

Bowie County: Barnsdall Oil Company et al's Pickering 1, 2 miles southwest of Texarkana, succeeded in reviving its gas-distillate pay, and potential test was pending after plugging back from 7501 to 7088 feet.

☆ East Texas Border

Carthage Field's First Oiler Completed for 170 Barrels

First oiler at Carthage completed on pump; Marion County wildcat swabbing with increasing improvement noted; wildcat activity slightly increased.

Panola County: Skelly Oil Company gauged 170.29 barrels of 29.3-gravity oil per day on pump and completed the first official oil well for the Carthage field at S. E. Matthews 1, William McFadden Survey, 3 miles east of Beckville. Production is through 80 perforations from 6314-30-feet, and 40 perforations at 6378-88 feet, after 4000 gallons of acid were used.

Marion County: Magnolia Petroleum Company et al's S. L. Orr 1, R. B. Fowler Survey, which has indicated gas-condensate production in the Travis Peak zone, swabbed 83 barrels of fluid, 80 percent oil, during a 3-hour test. Test was made through 68 perforations from 7568-77 feet, opposite the upper Travis Peak where good oil porosity was logged. Total depth is 10,513 feet with 7-inch production casing cemented on bottom.

Harrison County: Rogers Lacy has rigged up E. Key 1, wildcat in the A. Crocker Survey, 3 miles northeast of Beckville; and is rigging up another wildcat on the 140-acre Holt tract in the same area. Both locations are 3 miles northwest of old flank tests on the Carthage gas-distillate structure.

☆ South Central Texas

Gonzales Wildcat Is Tested; Bandera Test Has Oil Show

Gonzales wildcat makes drill-stem tests; Valley Wells wildcat fails on squeeze job; minor show of oil made in Bandera County test; Cedar Creek wildcat bails fluid showing oil; Bexar County wildcat plugs back to 3550 feet.

Gonzales County: Amerada Petroleum Corporation's Henderson et al Unit 1, prominent wildcat 5 miles southeast of Waelder in the James Gibson Survey A-23, has cemented 7⅝-inch pipe to 8771 feet, set a cement plug from 9500 to 9700 feet and drilled into the plug to 9587 feet. Two tests have been made with unsatisfactory results so far. With packers set at 9521 feet and at 9514 feet, a 2-hour drill-stem test gave a slight gas blow with no pressure build-up before the lower packer gave way. Recovery was 23 stands of fluid, 15 being water and 8 gas-cut mud. A second drill-stem test made when the packers were set at 9518 and 9511 feet gave the same results, when the packer again failed. On this test, 11 stands of fluid were recovered, 2 mud and 9 water. Operators plan to continue test on up the hole. The well was drilled to a total depth of 10,902 feet.

Dimmitt County: Barnsdall Oil Company's Sarah W. Henrichson 1, wildcat on an 86-acre lease in the Good Luck Colony Subdivision, Lot 5, Block 15, 2 miles southeast of Valley Wells, failed on 2 squeeze jobs and has resqueezed in preparation for a production test. The well was drilled to a total depth of 5280 feet with 5½-inch pipe set on bottom. A drill-stem test at 5214-26 feet recovered 150 feet of gas-cut mud and 1500 feet of oil-cut mud with cement traces. A new contract rig was moved to the location and another attempt was made to get a good cement job in the same zone, but failed. A second squeeze job was made through new perforations and failed. Last reports indicate a third squeeze job was made and operators were making preparations for another test.

Bandera County: Ray E. Pool was nearing the 1000-foot level according to latest reports in his E. J. Rainey 1, wildcat in the north corner of S¼ GH&SA Railroad Survey 16, A-1429, 5 miles east of Vanderpool. A minor show of oil was made in the Cretaceous in the 5000-foot scheduled test.

Bastrop County: William F. Zaunbrecher's Mrs. Bessie R. Lytton 1, wildcat test in the J. A. Navarro Survey, 1 mile north of Cedar Creek, has set 5½-inch casing at 1618 feet in the 1620-foot well and was bailing fluid which showed some oil. The test was originally scheduled for 1800 feet.

Bexar County: H. A. Pagenkopf et al (Chenoweth & Harroun) has plugged back and is testing the Max Blum 1, wildcat in the Gas Ridge area, M. F. Rodriguez Survey. The well was drilled to 7198 feet and 5-inch casing set to 6850 feet. Several attempts at production tests failed when the well had to be swabbed. On a test in perforations at 3070-3650 feet, the well flowed fresh water and was recemented. The well was resqueezed and swabbed, but only salt water was recovered. Operators have plugged back and were testing around 3550 feet.

CAMERON-IZED

THE OIL WEEKLY • April 15, 1946

Deepest Oil Production Established

By Louisiana Well at 13,778 Feet

A new record for deep oil production was established April 11 at Weeks Island, southeast of New Iberia, Louisi-

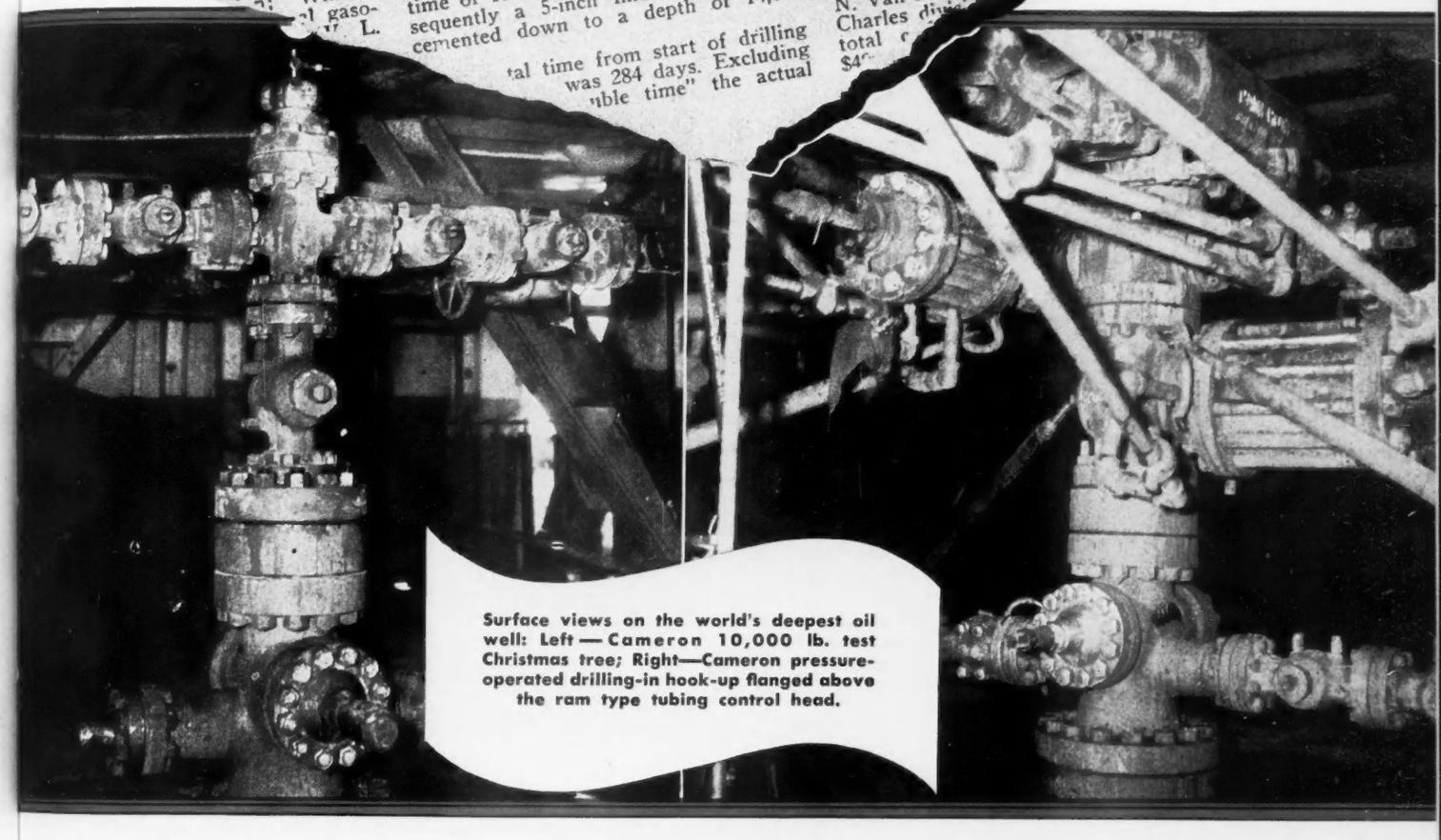
The No. 2 was drilled with a marine drilling rig to a total depth of 14,301 feet and plugged back for completion. The drilling unit was the same used to drill the No. 1 well.

The 13,430-foot string of 7-inch casing was run and cemented in the record time of 11 hours and 45 minutes. Subsequently a 5-inch liner was set and cemented down to a depth of 14,083

tal time from start of drilling was 284 days. Excluding uble time" the actual drilling days were 191. Fifteen were lost in moving back to recon the No. 1 well, which was sup

Turning the valve at the comp

ceremonies were J. L. McHugh, I ana Conservation Commissioner, John A. Smith, representing the Smith interest in the well. Shell officials a tending the ceremony included Galloway, vice president; A. executive assistant to G- Alexander, producti N. Van Duzee, m Charles di total c $4



Surface views on the world's deepest oil well: Left — Cameron 10,000 lb. test Christmas tree; Right—Cameron pressure-operated drilling-in hook-up flanged above the ram type tubing control head.

-State Unit 1—Well No. 2, world's est oil well, in the Weeks Island field of Coastal Louisiana.

In recent weeks Cameron drilling and completion control units have been identified with several outstanding wells, demonstrating again the wide-spread confidence held by operators in Cameron equipment and its ability to safely control extreme pressures. On April 11, Smith-State Unit 1—Well No. 2—in the Weeks Island field, Louisiana Gulf Coast, was completed at 13,778 feet as the world's deepest producer. This well was drilled with Cameron pressure-operated drilling control units, casing is suspended and sealed in Cameron casing heads, and it was completed with a Cameron 10,000 lb. test Christmas tree. Three days later, Holland No. 1 in the Blue Lake field, Brazoria County, Texas was completed with 7100 lbs. tubing flow pressure as the world's highest pressure well. A Cameron 15,000 lb. test Christmas tree was used for this completion and drilling operations were protected by Cameron pressure - operated blowout preventers and master valves. Holland No. 1 took the high pressure honors from Irby No. 1 in the Berclair field of Southwest Texas, completed a few weeks earlier with 6885 lbs. tubing flow pressure. Irby No. 1 was also drilled and completed with Cameron equipment, utilizing a Cameron 15,000 lbs. test Christmas tree.

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☆ Southwest Texas

Santa Rosa Well Makes Oil After Yielding Gas for Year

Santa Rosa discovery begins making oil after almost a year's production of gas; Starr County discovery well given potential.

Duval County: Cox & Hamon and Santa Clara Oil Company have taken a potential oil gauge on Clara Driscoll 3, discovery well for the Santa Rosa field 13 miles northwest of Benavides in the Santa Rosalia grant, Sect. 56. The well was originally completed in May, 1945, as a gas well, and recently started making oil from the original perforations. The well flowed 128 barrels of 24-gravity oil, no water, per day on 5/32-inch choke from perforations at 3160-66 feet. The gas-oil ratio was calculated to be 549/1 with tubing pressure 312 pounds and casing pressure 619 pounds. Total depth is 3218 feet with top of sand at 3160 feet.

Starr County: George H. Echols' M. M. Garcia 2, about 4400 feet west of George Irving's M. M. Garcia 1-D, oil producer on the extreme north edge of the Boyle field, and about 2 miles southwest of the Rincon field, has been completed for an initial gauge of 103 barrels of 42-gravity oil, no water, per day on ⅛-inch choke from perforations at 3396-3400 feet in the Frio zone. Tubing pressure gauged 350 pounds, giving a gas-oil ratio of 280/1; casing was sealed. Total depth is 4106 feet and 5½-inch casing is set to 3474 feet. Garcia 3 and Garcia 4 have been staked and scheduled to 4250 feet.

Proration Hearing Set

A public hearing to review proration in the Deep River (Arenac County) and Coldwater (Isabella County) fields, Michigan, has been tentatively scheduled for May 14 in Lansing by P. J. Hoffmaster, State Well Supervisor, on recommendation of the State Oil Advisory Board.

☆ Lower Texas Coast

Test Southeast of La Gloria Completed as Gasser by Shell

Shell completes gasser southeast of La Gloria; Magnolia cuts drill pipe in Jim Wells County test; abandonment planned for Willacy County; Beeville discovery well makes potential; oil show indicated southwest of West Ranch field.

Jim Wells County: Shell Oil Company's Wm. van Hoogenhuyze 1, wildcat 2 miles east of the Wilson field and adjacent to the Kleberg County line in the extreme southeastern part of the county, Lot 6, Block 10, Burton and Danforth Subdivision of Barrita Ranch, and 4½ miles southeast of La Gloria Townsite, has been completed for 4½ million cubic feet of gas, a little wash water and condensate on a ¼-inch choke from perforations at 9023-38 and 9060-69 feet. Tubing pressure during the test gauged 3650 pounds. Total depth is 10,086 feet and 4-inch liner is set to 9417 feet. The previous test made at 9191-9210 feet flowed 2 milion cubic feet of gas daily on 5/32-inch choke with 3000 pounds tubing pressure.

Magnolia Petroleum Company's Boerjan Unit 1, 1½ miles east of La Gloria townsite in Lot 10, Block 12 of lands adjacent to La Gloria, was reported cutting drill pipe which became stuck while drilling at total depth of 8682 feet. Sidewall cores from 7080-86 feet recovered sands with a slight gas odor, and drill-stem tests at 7153-56 and 7303-07 feet recovered salt water.

Willacy County: Dan Auld prepared to abandon Dan Auld-Harvey Geis et al 1, wildcat 1½ miles east of San Perlita, Harding Gill Subdivision, after coring below 9863 feet with no shows indicated. An electrical log was run and side wall samples taken. Total depth is 10,003 feet.

Bee County: Bridewell Oil Company's Sliva Estate 1, discovery well 9 miles southwest of Beeville and 4½ miles southwest of the Yougeen field gas production, was reported preparing to make a potential test after perforating 60 shots at 4378-88 feet in the Stillwell sand. The well has been tested for 25 barrels of 48.5-gravity oil per day on 7/64-inch choke. Gas-oil ratio was estimated at 300/1 with tubing pressure at 225 pounds and casing pressure 1050 pounds. Total depth is 4555 feet with 5½-inch pipe set on bottom.

Victoria County: Barnsdall Oil Company's Union-Keeran 10, located 14,000 feet southeast of the Keeran field production and 5 miles southwest of West Ranch field, has encountered sands which indicate a show of oil. Originally scheduled for 7200 feet, operators decided to drill deeper and ran an electrical log to 8150 feet and took sidewall cores in the sands indicating shows on the log. It is reported that operators will set production casing for tests.

☆ Upper Texas Coast

Log Is Run in Blessing Area Wildcat Sidetracked Hole

Log run in Blessing wildcat sidetracked hole; Midfields test sets pipe; Phillips makes good deep producer at Chocolate Bayou; Liverpool wildcat nears 10,000 feet; Olive confirmation test completed for good oil well; Sour Lake flank test in salt; South Mayes test makes condensate on test; Madison County wildcat fails to set liner.

Matagorda County: Amerada Petroleum Corporation et al's Ike Laughlin 1, wildcat 3 miles southeast of Blessing, John Holmes Survey and just east of the Morrison 1 junked hole, was running electrical log with hole bottomed at 10,000 feet. This is approximately the same level where Morrison 1 attempted to blow out, which resulted in sticking the drill pipe on bottom. Several attempts were made to sidetrack the hole, but it was finally junked.

Sun Oil Company's First National Bank of El Campo 1, 2091 feet northwest of the Strnadel 2 field discovery at Midfields, has cored the upper gas sands of the field and cored to 9200 feet where a string of 5½-inch casing was cemented.

Brazoria County: Phillips Petroleum Company's R. L. Kempner (Triangle Development Company) 1, on the east side of the Chocolate Bayou field in HT&B Surveys 1 and 4, Abstracts 298 and 226, and 1400 feet northeast of The Texas Company's Weiting 1, was completed flowing 207 barrels of 30.9-gravity oil daily through ⅛-inch choke from 24 perforations at 11,080-087 ½feet. Tubing pressure during flow gauged 4250 pounds and gas-oil ratio was 5174/1, the fluid showing 1 percent water cut. Gas production was estimated at 1,072,000 cubic feet per day. Total depth is 11,603 feet with 5½-inch pipe set at 11,210 feet.

Pan American Production Company's Callihan Unit 1, Liverpool area west of production in the Chocolate Bayou field, Angier Hall and Bradley Survey, Abstract 6, 4650 feet northwest of Stanolind Oil & Gas Company's Houston Farms 1-B, which extended production in the field 4000 feet westerly, was drilling sandy shale and sand at 9556 feet. Proposed depth is 12,000 feet.

Hardin County: Pan American Production Company's Oliver Sternenberg Lumber Company 2, confirmation test for the Olive area discovery, has been completed and given a potential gauge of 204 barrels of 44.3-gravity oil daily through ⅛-inch choke from perforations at 10,100-140 feet. Gas-oil ratio was 4112/1 and the flowing tubing pressure was 4000 pounds, with shut-in tubing pressure at 4100 pounds. Total depth is 11,474 feet with 5½-inch pipe set at 10,184 feet.

Sun Oil Company's Merchant Estate 2-A, east flank test of the Sour Lake field, S. Jackson League and 661.6 feet east of the 1-A well, was shut in after squeezing perforations at 3936-61 feet. A production test was conducted at this level through 100 perforations and the well swabbed to 2000 feet, but no commercial recoveries were made. Total depth is 5319 feet in salt, topped at 5315 feet.

Chambers County: Humble Oil & Refining Company has completed a second well in the South Mayes field area, more than a mile southeast of the Mayes field. The company's Annie Frankland et al 1, 2000 feet northwest of the company's Lula Wallis 1 discovery well, Samuel Mather Survey, Block 13, Abstract 192, has been completed with 60 perforations at 9110-20 feet. On 8½-hour test, the well flowed 11.3 barrels of 54.9-gravity condensate through ¼-inch choke with 3475 pounds pressure on tubing; casing was sealed. Gas-condensate ratio was estimated at 33,300/1. Total depth is 9900 feet and 5½-inch casing is set to 9822 feet.

Jefferson County: A. H. and C. L. Rowan's Beaumont Building — Loan Company 1, north flank test of the Amelia field just west of Beaumont, in the Chas. Williams Survey, Abstract 59, was last cutting drill pipe which became stuck on a trip out of the hole, at a total depth of 8725 feet. The well is running level with producers at Amelia, according to a log run at 8200 feet, but is thought to have cut a fault just below the 8200-foot level.

Madison County: West Production Company and Noranda Oil Company's H. M. Boring 1, wildcat in the Amy Boatright Survey, 7½ miles southwest of Madisonville, ran a string of 7-inch casing to 9515 feet and attempted to set 4000 feet of 5-inch liner, but failed to get cement behind the pipe where liner was run. Operators were reported drilling out cement at 9000 feet and will make another try. The Edwards lime was topped at 9613 feet and the Glenrose at 10,103 feet.

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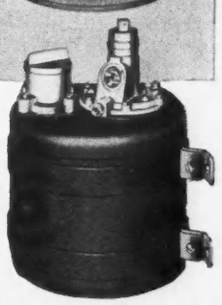

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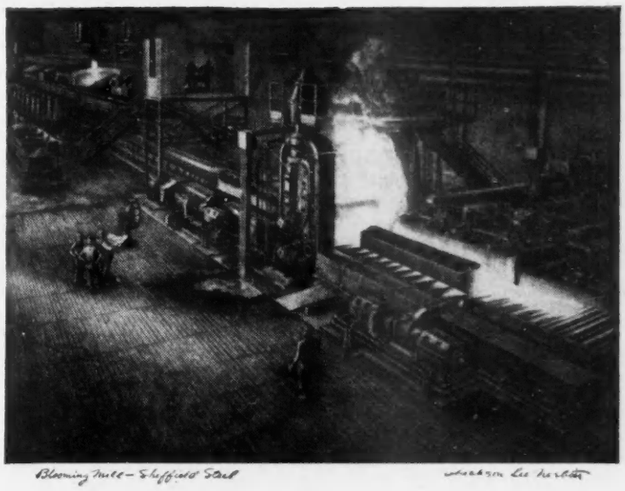

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☆ South Louisiana

Sohio's Bon Air Outpost and China Area Wildcat Set Pipe

China area wildcat and Bon Air outpost waiting on cement after setting pipe; Lake Pontchartrain test conditions mud at 9500 feet; Fohs Oil completes good producer at Gueydan; deep test in East Moss Lake completed; ½-mile extension completed for Egan field.

Jefferson Davis Parish: Sohio Petroleum Company's W. L. Trimble 1, wildcat test in the China area, center of SE NW Sect. 2-8s-4w, has set 7-inch casing at 8719 feet and was waiting on cement. Total depth when casing was run was 8720 feet. The well is scheduled for 9750 feet to test the discovery sands in the Vicksburg formations.

Sohio's Bon Air outpost, Claudius Fontenot et al 2-B, west offset to 1-B well, 16-10s-6w, is also waiting on cement after running a string of 5½-inch pipe to 9755 feet. Total depth is 9757 feet. Discovery sands at the level with the other 2 wells in the area have been topped, with preparations for production tests now under way.

Jefferson Parish: The Atlantic Refining Company's State-Lake Pontchartrain 1-C, wildcat in the Metairie area on State Lease 318, Unit 3, Block 8, was conditioning mud after drilling to 9500 feet. An electrical log was run to 5261 feet with no shows indicated, and 9⅝-inch casing was set to 7829 feet.

The California Company's E. P. Brady et al 2, approximately a mile southeast of the discovery well at Bayou LaFluer, 24-16s-24e, was reported running casing with total depth 11,500 feet. An electrical log was run to 9500 feet but no information on results was reported. The E. P. Brady 3, located in 61-16s-24e, is drilling below 9045 feet in shale.

Vermilion Parish: Fohs Oil Company's Simon Campbell Unit 2, in 36-11s-1w, at Gueydan, has been completed for another good oil producer from the Mulvey sand. The well flowed 486 barrels of pipe line oil in 24 hours through 10/64-inch choke from perforations at 9968-80 feet. Gas-oil ratio was calculated at 657/1 with 1550 pounds pressure on tubing and 1800 pounds on casing. Total depth is about 10,000 feet.

Calcasieu Parish: Continental Oil Company's Prairie Canal Company, Inc. 1-B, 3-11s-9w, deep test in the East Moss Lake field, has been completed for a gauge of 172.8 barrels of condensate daily through 10/64-inch choke from 48 perforations at 10,443-453 feet with 3650 pounds pressure on tubing. Gas-oil ratio was 13,627/1 and total depth is 10,550 feet with 5½-inch casing set at 10,490 feet.

Acadia Parish: Sun Oil Company & Sohio's Elizabeth Regan 3, deep test on the east side of production in Egan field, 31-9s-1w, was driling at 13,259 feet with no shows announced.

Irwin & Hudson's Houssiere-Latreille 4-B, 30-9s-2w, ½ mile west of production in the Egan field has been completed as a dry gas well to extend the field. The well was drilled to 10,700 feet and 5½-inch production pipe set on bottom, with gas sands encountered from 10,640 to 10,680 feet. Pipe was perforated with 24 shots at 10,675-680 feet where the well is flowing dry gas with tubing pressure gauged at 3500 pounds.

Continental's C. O. Ardoin 2, Tepetate field, 29-7s-2w, continues to core sands with gas odors below the 8755-foot level. It is scheduled for 9600 feet.

Washington Parish: Humble Oil & Refining Company's Gaylor Container Company 1-B, wildcat in the Angie area just below the Mississippi state line in 42-1s-14e, was drilling in shale below 9800 feet. Three drill-stem tests made to date, at the 5900-foot, 8100-foot and 9200-foot levels, have recovered only salt water.

St. Bernard Parish: The Texas Company's State-Chandeleur Sound 2, on State Lease 335, 2½ miles southwest of the No. 1 dry hole, was making an effort to regain circulation after losing returns while drilling at 8080 feet. This is a proposed 10,500-foot test.

Gas Tax Plan Hit

A plan under consideration by the Louisiana Code Commission to recommend increasing the state's natural gas gathering tax of ½ cent per 1000 cubic feet to 3 cents was denounced by the board of directors of the Shreveport Chamber of Commerce. The Chamber of Commerce took the position that the proposed increase would not only prevent new industries moving into Louisiana but might drive from the state industries now in operation there.

☆ North Louisiana

Haynesville Field Test Has New Pay in Cotton Valley

New Cotton Valley pay noted for Haynesville field; wildcat completed as gasser in Franklin Parish; 2 deep tests scheduled for DeSoto Parish; wildcat failures reported in Madison, Sabine and Franklin parishes.

Claiborne Parish: The Ohio Oil Company completed Bond-Beene Unit 1, 22-23n-8w, old Haynesville field, from a new pay sand in the Cotton Valley at 9990-10,130 feet. The well flowed 121.8 barrels of 52-gravity distillate and 980,746 cubic feet of gas per day through 8/64-inch choke on tubing. Total depth is 10,773 feet. Active leasing has been reported in the area east of the field.

Franklin Parish: R. J. Caraway and F. L. Bryant Company's Mrs. M. L. Ruple 1, 9-16-8e, was completed as a wildcat gas producer, flowing 41½ million cubic feet per day from 3028-36 feet in the Tuscaloosa. Total depth is 3510 feet.

F. B. King Company's McIntyre & O'Brien 2, 32-16-9e, was a wildcat failure at 6005 feet.

Richland Parish: Continued wildcatting was assured for the parish as A. W. Cheer and Barron Kidd moved in rig for J. J. Archibald Estate 1, NE NW 29-16n-7e, 6 miles southwest of Big Creek production. This test will seek Paluxy production.

R. T. Sellars has applied for permit to drill north offset to his Ford 1, 12-16n-7e, which flowed 290 barrels of 39.9-gravity oil through 16/64-inch choke from perforations opposite the Tuscaloosa Massive sand at 2860-66 feet. The discovery is either an extension to the Big Creek field 1½ miles east, or opens a new producing reservoir. The offset will be L. P. Ford 2, C SE SW SW 1-16n-7e.

Roy L. Fisher's Virginia Koerner 1,

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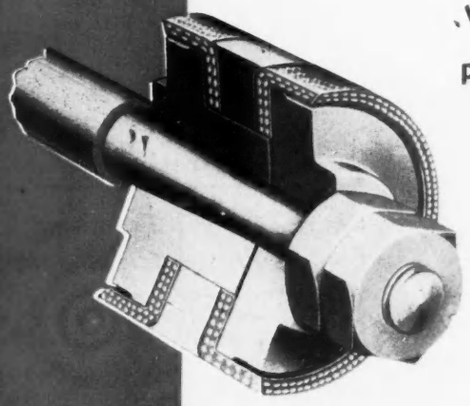

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TULSA, OKLAHOMA

36-16n-5e, wildcat, is drilling at 3931 feet, having cored from 3404-24 feet without recovering any shows.

DeSoto Parish: Kerr-McGee Oil Industries is starting work at Nabors 1, C SW SE 28-12n-14w, a deep wildcat scheduled for the Travis Peak.

G. C. Schoonmaker et al will deepen to 6500 feet, or the Travis Peak, the old G. W. Sample 1, dry hole, 12-13n-14w, on the southwest flank of the shallow Holly field. The test was abandoned in October, 1944, at 3129 feet with no commercial showings.

Caddo Parish: Union Producing Company's Noel Estate A-1, wildcat in the Longwood area, 11-19-16w, which last week was reported shut in without gauge, has been given an estimated daily production of 25 barrels of oil.

A. Paul Gilbert's Thompson 1, 15-22-16w, Pine Island, is preparing to test, with hole at total depth of 2955 feet. Two zones have been cored that were indicative of production.

Tensas Parish: Sohio Petroleum Company's Biedenharn et al 1, 11-12n-12e, wildcat, is changing bits at 9071 feet. A test from perforations at 8860-94 feet flowed gas, salt water, and distillate into pits.

Sabine Parish: L. & L. Oil Company's Pelican State Bank 1, wildcat in 25-10-13, was abandoned at 1974 feet. Union Producing Company's Louisiana Long Leaf Lumber Company 1, 29-8n-11w, wildcat, was driling in shale at 8322 feet.

Madison Parish: Pres Cochrane's wildcat J. M. Frazier 2-A, 15-17-10e, was a failure at 4011 feet.

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☆ Arkansas

New Producer in Wesson Field Given ¼-Mile Extension

New producer at Wesson field extends field ¼ mile southeast; new wildcat staked 1½ miles southeast of production; McKamie and Patton fields merged; Nevada County wildcat reported swabbing oil; wildcat test on McNeil Prospect abandoned.

Ouachita County: Lyon & Prentiss' Ritchie 2, NE NW NW 30-15-18, though not yet gauged, was reported flowing from the Glen Rose pay at 2718 feet, and will extend the Wesson field ¼ mile southeast. Development in the area continues most actively.

A wildcat test is rigging up 1½ miles southeast of Wesson production, S. J. Felsenthel et al's H. H. Medlock 1, SE NE SW 29-15-18.

Lafayette County: The McKamie and Patton producing areas are united as a single reservoir by the completion of Barnsdall Oil Company et al's Colonel Moore 1, 34-17s-23w, which is flowing 222 barrels of 42.8-gravity oil in 12¼ hours through 14/64-inch choke from the Smackover lime at 9298-9310 feet. The McKamie structure appears to be an east-west anticline, somewhat bulbous in the eastern extremity, with 230 feet of productive closure ascertained by development.

Nevada County: Charles F. Steele et al are rigging up pump for potential at H. L. Waters 1, C N½ NW NE 20-14s-21w, a reported Nacatoch sand discovery, said to have swabbed 50 barrels of oil per day. Casing was perforated and ripped from 1207-19 feet.

J. B. Womack and W. C. Partee's P. C. Grayson 1, SE SW NW 36-14-20w, is being drilled north of the Stephens field.

Columbia County: McAlester Fuel Company abandoned W. H. Russ 1, C SW SW 12-16s-20w, on the McNeil Prospect, without showings indicating production. Porosity was topped at 6830 feet; total depth was 6848 feet. This is the fourth dry hole drilled on the prospect, and is 57 feet higher than the previous highest well drilled in the area 1 mile to the west.

☆ Mississippi

Kings Test Still Promising; Phillips Prospect Abandoned

Kings field test shows up well; Phillips' prospect in Adams County abandoned; attempted extension of Brookhaven looks good.

Warren County: Magnolia Petroleum Company's S. D. Finley 1, SE SW SE 27-17n-4e, second well to be drilled in the new Kings field, continues to test below the 2000-foot zone in an effort to develop shows of oil and gas which were recovered in cores there. In latest test at 2386-90 feet only brackish water with slight shows of gas were recovered with tool open 30 minutes. A good flow of dry gas had previously been recovered in a drill-stem test at 1910-19 feet.

Adams County: Phillips Petroleum Company's Davey 1, 46-8n-2w, which looked like a prospective pool opener for a long time resisted all efforts to eliminate salt water input and has been

abandoned at 10,514 feet. A fair show was recovered from the lower Tuscaloosa horizon at 10,060-75 feet but salt water input built up to a 75 percent ratio, and although the producing section was acidized and several attempts made to squeeze off the trouble, no luck was obtained. Humble Oil & Refining Company's Adams County Board of Supervisors 1, SEc 47-6n-1w, wildcat, is drilling below 6730 feet in its drive for the lower Tuscaloosa. A drill-stem test at 6282-6300 feet in the Wilcox section recovered only mud and salt water. In the Cranfield field, The California Company's Ella G. Lees 9, 45-7n-1w, which recovered a good blow of gas from the lower Cretaceous at 11,680-706 feet to add a new potential producing zone to the field, is running core tests below 11,940 feet with no new shows. California's Geo. W. Armstrong 2, 29-7n-1w, Cranfield, has entered the producing zone and is waiting on cement after setting casing to 10,309 feet. Gulf Refining Company's Ella G. Lees 4, NEc 71-7n-1w, upper section of Cranfield, is drilling below 9732 feet with no shows.

Lincoln County: Roeser & Pendleton's School Land 1, NW NW 16-7n-7e, attempted southern extension of the Brookhaven field, has recovered good shows of oil in cores in lower Tuscaloosa sands below 10,316 feet, indicating possibilities of commercial production. On the basis of showings so far, structure on the southern limits of field is indicated to be more favorable than that farther north where production was first brought in. Five and one-half-inch casing has been set to 10,458 feet and preparation is being made for more tests. California's J. B. Arrington 1, NEc 32-8n-7e, Brookhaven, is drilling in the lower Tuscaloosa below 10,370 feet with no shows. California's Ras Smith 1, NEc 8-7n-7e, Brookhaven, is understood to have obtained fair saturation in cores at approximately 10,272 feet. Further tests are being made.

Wilkinson County: Danciger Oil & Refining Company's Geo. W. Armstrong 1, wildcat in 5-4n-2w, is drilling below 10,391 feet in the Austin zone with no shows at the lower levels. A slight show of gas was recovered in cores from the Wilcox horizon at 6608 feet.

Greene County: Humble's Greene County Board of Supervisors 2, 16-3n-7w, salt dome test, is readying to set casing after reaching a total depth of 2178 feet. Well is heading for the 5000-foot zone.

Clarke County: Sun Oil Company's Long Bell Petroleum Company 1, NWc 7-2n-17e, wildcat is running core tests below 3830 feet with no shows. Cores at 3820-30 feet recovered thin section of shale.

☆ Alabama

Wildcatting Increase Likely; Three New Locations Staked

Activities almost at standstill with all tests except one shut down for orders or waiting on repairs: wildcat activity readying for increase; 3 new locations staked.

Madison County: W. W. Newman's Lam 2, SW SE 10-4s-1e, is drilling at 250 feet.

Marion County: Harry L. Cullet's

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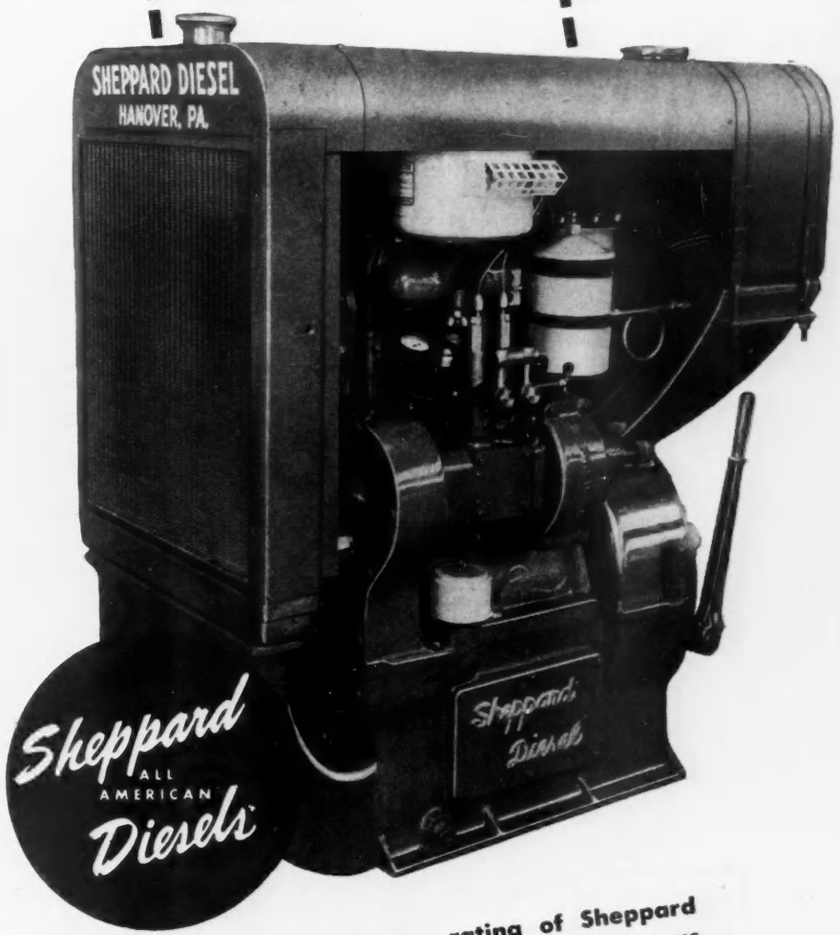

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H. V. Lewis 1, SW NE SE 23-11s-14w, will be located 3½ miles south of Hamilton and 2 miles northeast of the 3 dry tests drilled in the county several years ago.

Pipe County: Rudd & Madtingly have located W. F. Spencer 1, C NE NW 25-8n-20e, first oil test for the county. The Texas Company is understood to be contributing toward the test.

Geneva County: Shell Oil Company has located a deep wildcat in 26-1n-20e, on what the company considers to be a good prospect. Operations will begin shortly.

Florida

Humble Oil & Refining Company's Gulf Coast Realty 6, SW NE 19-48s-30e, Sunniland field, Collier County, appears to be assured of commercial production for the first successful completion in the state in more than a year. A section of lime between 11,558-578 feet was tested. On latest test the well flowed at the rate of 208.5 barrels of 25.2-gravity oil per day through a 5/32-inch tubing choke, tubing pressure 360 pounds, with gas-oil ratio only 70/1. Previously shows had been recovered in section between 9740-849 feet but they failed to develop encouragingly under acidization. On the strength of this showing of the Realty 6, Humble has located Gulf Coast Realty 8, SW SE 19-48s-30e, slightly south of its potential producer.

Monroe County: O. D. Robinson's State Well 1, NEc NW 29-59s-40e, wildcat which has previously indicated slight shows of oil in the 10,000-foot zone, is working below 11,780 feet in anhydrite with no shows reported in the last several hundred feet.

Gulf Refining Company's State 1, SWc 2-67s-29e, wildcat, was drilling at 5837 feet.

Hernando County: The Ohio Oil Company's Hernasco Corporation 1, NWc 19-23s-18e, wildcat, is running core test below 6615 feet with no shows reported.

Osceola County: Humble's N. Ray Carroll 1, SE SE 10-27s-34e, wildcat, plugged back to 1862 feet after being bottomed temporarily at 1955 feet. Last cores taken at 1927-52 feet recovered gray porous dolomite. Well is readying to set casing.

Georgia

James E. Weatherford's H. Wilkes 1, Montgomery County, about ½ mile west of Higgston, has resumed drilling after several months layoff. Well is now working below 2912 feet. It is understood that Southern Natural Gas Company is contributing dry hole money with contract calling for depth to basement rock or 5000 feet.

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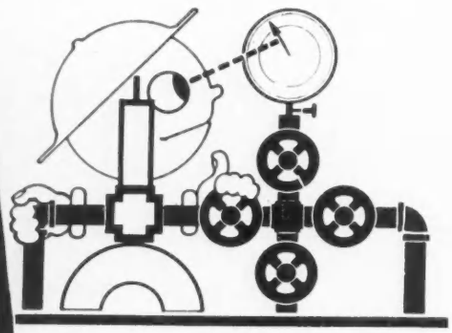

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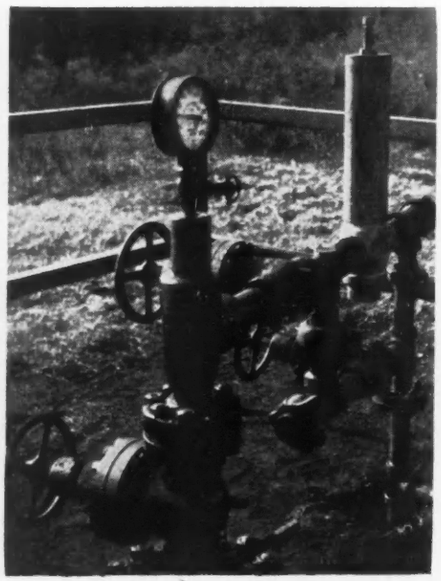

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☆ Rocky Mountain Area

Montana Activity Quickened; Rangely Now Has 63 Producers

Montana wildcat activity steps up; Phillips reviews Rangely prospects.

Montana

The Pure Oil Company has located a test in southeastern Montana on state land, 42 miles southeast of Miles City in Custer County. The test will be to pre-Cambrian levels at an estimated depth of 9550 feet. The Carter Oil Company and Phillips Petroleum Company have abandoned their joint test, Lucy Weaselhead 1, in Glacier County, at 10,102 feet. Stanolind Oil & Gas Company, Farmers Union, The Texas Company, General Petroleum Corporation, and Continental Oil Company are stepping up their wildcatting activity as the weather gets better, along with smaller companies and individuals. Among the latter is a wildcat spudded northeast of Sun River in Cascade County and another in the Conrad area of Pondera County.

Colorado

Phillips is drilling 4 Weber sand wells in Rangely field, Rio Blanco County, and has what it terms "3 excellent oil producers" already completed in the field, "with indications that 20 additional 40-acre locations should be productive." Phillips acreage at Rangely is reported at 1880 acres, with proven reserves estimated at between 7 and 8 million barrels of oil. The California Company still holds a commanding lead among Rangely field operators, with 31 wells producing, 11 drilling and 4 rigging up. Texas now has 11 producers, 6 drilling; Stanolind has 10 producing and 9 drilling, with 1 rigging up. The Wasatch-Idaho-Sharples group has 6 producers, with 3 more drilling. Total Rangely wells at the end of April were 63 producing, 36 drilling and 7 rigging up. No dry hole has yet been drilled in Rangely and several wildcats to test the extreme outer edges of the structure will be spudded within the next few weeks.

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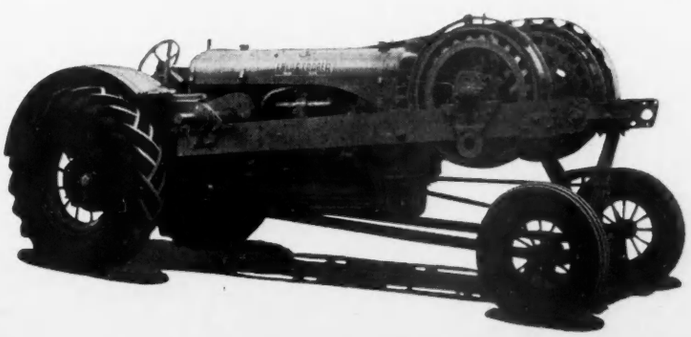

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Prepared under the Direction of the Committee on Tectonics, Division of Geology and Geography, National Research Council.
Chester R. Longwell, Chairman, Philip B. King, Vice-Chairman.
Charles H. Behre, Walter H. Bucher, Eugene Callaghan, D. F. Hewett, G. Marshall Kay, Eleanora B. Knopf, A. I. Levorsen, T. S. Lovering, George R. Mansfield, Watson H. Monroe, J. T. Pardee, Ralph D. Reed, George W. Stose, W. T. Thom, Jr., A. C. Waters, Eldred D. Wilson. A. O. Woodford.
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☆ California

Yolo County's Dunnigan Hills Gas Field Receives Extension

Standard extends Dunnigan Hills gas field in Yolo County; 6 major companies to drill wildcat near Los Angeles airport; tests of East Los Angeles outpost not encouraging; Cymric outpost in oil sand; South Belridge deep test reaches 10,000 feet.

Yolo County: Standard Oil Company of California's DuBois 1 wildcat, Dunnigan Hills area, 28-11n-1w, may be completed immediately as a southwesterly extension well of the Dunnigan Hills gas field. On a formation test of the interval 2530-2880 feet, the well blew 2,740,000 cubic feet through ½-inch choke. Total depth is 2880 feet. Only other producer in the field is The Texas Company's discovery, Hermle 1 in 22-11-1, brought in last February flowing 3 million cubic feet. Standard drilled and abandoned last month another well in this area, Laugenour 1, 15-11n-1w, about a mile south of the Texas discovery.

Solano County: Another gas well scheduled for early completion is Standard's Kirby Community 1, 24-4n-1w. The well blew 4,870,000 cubic feet through ½-inch choke on a test at 1530-1681 feet. Top of the Domengine was placed at 1530 feet.

Los Angeles County: Standard may complete Gough 16 in the El Segundo field as a natural gas producer. On a formation test of a 35-foot interval between 2045 and 2080 feet, with tester open 30 minutes, the well flowed 3,475,000 cubic feet. No fluid was recovered. Drilling continues below 2580 feet.

Location was staked for a wildcat northwest of the El Segundo field and adjacent to the Los Angeles municipal airport by six companies (Richfield Oil Corporation, Shell Oil Company, Standard, Texas, Tide Water Associated Oil Company, and Union Oil Company). Operators' Fee 1 will be near the center of 2-3s-15w. The Los Angeles city council voted in March to create an oil drilling district on the 900 acres of land just west of the airport owned jointly by the 6 major companies. Land is being sold to the city which needs it for airport expansion, with the oil companies retaining sub-surface rights.

Tests in Chanslor-Canfield Midway Oil Company's East Los Angeles outpost, Bandini 1 in 21-2s-12w, have not been encouraging. Well was plugged back to 9800 feet from 10,058 feet. On tests of perforations between 9250 and 9400 feet, the swab brought up a small amount of fluid. Operator has pulled tester to change drill pipe and retest.

Santa Barbara County: Bell-Casmite Oil Company's deep sand discovery in the Casmalia field, Arellanes 2 in 13-9n-35w, is currently producing 237 barrels of 19 to 22 gravity oil, 20 percent cut. Southeast of the Casmalia field in 28-9s-34w, Union is preparing to drill a wildcat, Escolle A-1.

Kern County: Universal Consolidated Oil Company's Cymric outpost, Sauerdough 7, 23-29-21, is preparing to test the interval 3720-3892 feet. Oil sand was logged from 3733-3880 feet. H. H. Magee, operator, has derrick erected for Bolten 3 in Sect. 22. In Sect. 27, Standard has completed Weston 72-27w in the Oceanic sand flowing 500 barrels through a 13/64-inch choke.

Seaboard Oil Company et al's Buena Vista Lake deep test, BVA 73-14 in 14-32-25, is redrilling below 5908 feet. Old depth is 11,495 feet. Plans are to redrill to 7500 feet and set a 9⅝-inch protective string.

Kings County: Trico Oil and Gas Company's Coe Community 74 in the Trico gas area, 13-24s-22e, has been completed flowing 7 million cubic feet. On one test the well blew 10 million cubic feet.

☆ Illinois Basin

Gallatin County, Illinois, Has McClosky Lime Pool Opener

Gallatin County, Illinois, given new pool; new pay horizon opened in Keenville pool, Wayne County; Rolland pool, White County, extended; gas pool opened in Daviess County, Kentucky.

Deep Rock Oil Company's Pioneer Trust and Savings Bank 1, NW NE SE 2-8s-8e, opened a new pool for Gallatin County when it produced 20 barrels of oil in 24 hours during completion tests in McClosky lime at 2855-65 feet. Well is 2 miles east of production in the Omaha pool.

Wayne County: M. J. Mitchell's Cornstubble 2, NW SE SE 28-1s-5e, has opened a new pay horizon in the Keenville pool with McClosky lime production at 3100-10 feet. The well swabbed and flowed 1200 barrels of oil, natural, in 30 hours. Production originally was from Aux Vases sand only.

Jasper County: J. J. Lynn's Hippler 1, C W½ NW SE 27-7n-10e, ¾ mile north of the Willow Hill pool, has been completed for 60 barrels of oil in 24 hours from McClosky lime at 2670-75 feet to give the county a new extension.

White County: Sun Oil Company and Phillips Petroleum Company's Okerson 1, NW SW NE 8-7s-8e, extends the Rolland pool with production from McClosky lime at 3100-05 feet. The well made 15 barrels of oil in 24 hours. The well is a mile northwest of production.

Kentucky

Watkins Drilling Company's Massey 1, 25-P-29, near Owensboro, Daviess County opened a gas pool in the Waltersburg sand at 1155-65-feet. The well showed for 5 million cubic feet daily.

Indiana

Fox and Fox' Audrey 1, SE SW NW 10-4s-14w, Posey County, opened a new pool when it pumped 150 barrels of oil in 24 hours from Tar Springs sand at 2210-15 feet. Well is 1½ miles east of the New Harmony pool of Illinois, and is separated by dry holes.

Delta Drilling Company's 12-A Elliott, 23-5s-14, has opened a new horizon for the South New Harmony pool, in Pennsylvania sand at 1315-65 feet. During a 30-minute drill-stem test the well made 300 feet of clean oil.

Montcalm County, Michigan, Wildcat Has Dundee Lime Pay

McClure Drilling Company's Wicks 1, SW NE NW 36-11n-6w, Day Township, Montcalm County, Michigan, logged Dundee lime at 3321 feet and oil-gas pay at 3336-38 feet, carrying 1500 feet of oil in 5-inch casing after standing 24 hours.

☆ Canada

Two Wells Spudded in 29-Well Central Saskatchewan Program

Two wells were spudded May 1 in a projected 29-well oil and gas exploration program in the Vera-Unity area of Central Saskatchewan. Objects of the program are to add to the reserves of the Unity field, first important gas field in Saskatchewan, and to probe oil possibilities through the Cretaceous, Devonian, and down to the granite.

Backers of the program are Bata Petroleums Ltd., with contracts let for 15 wells; Vera Oilfields Ltd., with contracts let for 10 wells; and Verbata Petroleums Ltd., with contracts let for 4 wells. Contractor for all 29 wells is General Petroleums Ltd. of Calgary. The wells spudded are Verbata Petroleums 2, lsd 7 24-41-24w3, to be a deep test down to the granite (around 4500 feet) of oil and gas prospects 10 miles northwest of the proven Unity Gas Reserve.

Bata Petroleums 13, lsd 10 3-39-22w3, to be a test of the Cretaceous and top of the Devonian limestone (to around 2300 feet, about 5 miles southeast of the Unity gas field.

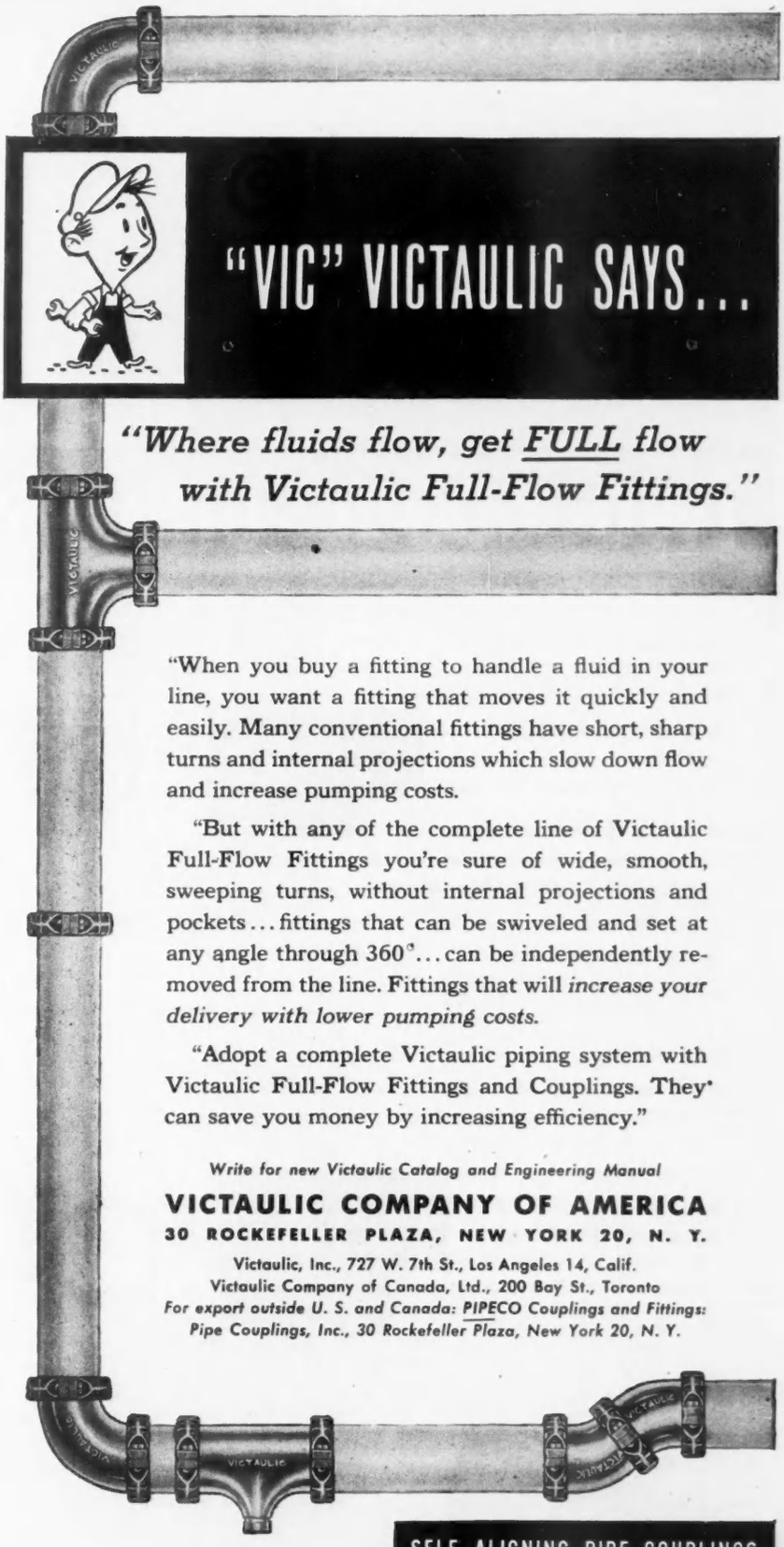
The Unity gas field, opened in 1945, now has 9 wells spaced over an area of 5000 acres. Two gas-bearing sands have been established—the "Viking sand" of the Upper Cretaceous, found from 1620 to 1900 feet; and the "Unity sand" of the Lower Cretaceous, found from 2030 to 2100 feet.

Royalite-De Winton 1, Alberta Syncline wildcat in lsd 14 16-21-1w5, halted coring April 27 at 8247 feet, after penetrating a 50-foot Brown sand (Jurassic) section with varying porosity and oil-saturation between 8195-245 feet, and entering Fernie shale at 8245 feet. With sand outlook regarded as encouraging, 7-inch casing is being set to the top of the Brown preliminary for a full test of oil and gas possibilities. Five attempts were made to drill-stem test the Brown sand during its penetration, but packer failed in each attempt. Before entering the Brown sand, 5 feet of porosity and oil saturation were cored in the Dalhousie sand (8170-75 feet), and a drill-stem test gave a 280-foot rise of 35-gravity crude and rotary mud in 48 minutes.

McColl-Frontenac Oil Company and Union Oil of California have staked their second joint venture on the Southeast Alberta Plains, following failure of the initial test. The well is McColl-Frontenac-Union Oil 16D-29-1-9, NE lsd 16 29-1-9w4, Pinhorn area, 5 miles north of the Montana boundary. Initial test, the 11B-6-2-8, lsd 11 6-2-8w4, was abandoned at 3303 feet, after showing water in the Madison limestone. The new venture is 5 miles west and 1½ miles south of the initial test.

Compact Session Set

The summer quarterly meeting of the Interstate Oil Compact Commission will be held at Grand Rapids, Mich., August 8, 9 and 10. The dates were set by the executive committee, of which Gov. R. S. Kerr of Oklahoma is president; H. M. Dow, New Mexico, and W. M. Downing, Colorado, vice chairmen; and Gov. A. F. Schoeppel, Kansas, and Sidney Lathan, Texas, associates.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EXPLORATORY COMPLETIONS

ARKANSAS WILDCAT

Columbia County—Failure: McAlester Fuel's W. H. Russ 1, c sw sw 12-16s-20w, James 3467, Buckner 6596, Smackover 6822, porosity 6830, abnd 6848.

CALIFORNIA WILDCATS

Kern County—Failures: Gene Reid Drilling's Anderson 26, 18-29s-21e, Temblor area, Top Phacoides 1910, abnd 2662.

Richfield's M & L Fee 1, 18-29s-21e, Temblor area, Top Phacoides 3182, Main Phacoides 3228, abnd 3280.

Texas' Cairns 1, 14-26s-27e, Dyer Creek area, Vedder 2422, abnd 2453.

CALIFORNIA NEW PAY TEST

Santa Barbara County—Casmalia Field Oil Discovery: Bell-Casmite's Arellanes 2, 13-9n-35w, flowed 750 barrels 21-gr from 2 perforated intervals between 4100-4800 ft, td 5950, elev 510.

FLORIDA WILDCAT

Franklin County — Failure: Pure's H. C. Lister 1, nwc 17-7s-7w, abnd 4917.

ILLINOIS WILDCATS

Clinton County — Failure: J. L. Gerard's Gill 1, se se se 18-3n-2w, abnd 1216.

Coles County—Failure: Carter's Daily-Hopper 1, nw sw nw 14-13n-7e, abnd 3250.

Edwards County—Failure: J. W. Havens' Glover 1, se ne se 5-3s-10e, abnd 3352.

Mason County—Failure: Keith R. R. Equip. Co.'s Wilson 1, ne ne ne 19-21n-5w, abnd 1360.

Richland County—Failure: Nat'l Assoc. Pet. Co.'s Jorgison 1, se sw nw 19-4n-9e, abnd 3104

Shelby County — Failure: Fox & Sipple's Storm 1, ne nw sw 28-11n-6e, abnd 2260.

INDIANA WILDCATS

Martin County — Failure: H. E. Brewer's Risacher 1, ne ne ne 19-3n-4w, abnd 275.

Posey County—Failure: C. A. Lynch et al's Clement 1, sw se nw 35-5s-14w, abnd 3100.

KANSAS WILDCATS

Rooks County—Failure: Tom Palmer's Lorbeer 1, sw sw sw 28-7s-19w, Arb 3342 ft, abnd 3378.

Rooks County—Failure: Ingling & Huber's Ordway 1, nw nw ne 20-10s-18w, Arb 3815 ft, abnd 3835.

Russell County — Failure: Sharon Drlg.'s Krug 1, ne ne sw 30-12s-14w, abnd 3268.

Sumner County—Discovery: Ashland Oil and Bartlett's James 1, nw sw ne 36-32s-2e, pumped 45 bbls oil day, Arbuckle 3474 ft, td 3477.

WESTERN KENTUCKY WILDCAT

Butler County—Failure: Benedum & Trees' Pircy 1, 18-H-36, abnd 1529.

NORTH LOUISIANA WILDCATS

Franklin Parish — Gas Discovery: R. J. Caraway-F. L. Bryant's Mrs. M. L. Ruple 1, 9-16n-8e, Wilcox 2540, Midway 3016, gas rock 3020, Tuscaloosa 3024, Paluxy 3414, perf 48 shots 3028-36, flow 41,500,000 gas, rock press 1390 lbs, td 3510.

Franklin Parish—Failure: F. Boykin King's McIntyre & O'Brien 1, c ne ne ne 32-16n-9e, 1¾ mi w Lamar fld, L. Cret 4802, abnd 6005.

Richland Parish—Oil Discovery: R. T. Sellars' L. P. Ford 1, c ne nw nw 12-16n-7e, Tuscaloosa pay 2860-69, perf 36 shots 2860-66, flow 290 bbls 39.9-gr, 16/64-in, td 3203.

SOUTH LOUISIANA WILDCATS

Cameron Parish—New Distillate Discovery: Continental's Cameron Parish School Board 1, 16-15s-14w, Johnson's Bayou area, pay 7312, perf 24 shots 7312-16, flow 4.60 bbls 50-gr dist, 1,840,000 gas, 0.1% wtr, 3/16-in, gor 400,000/1, td 9302.

Lafourche Parish—New Oil Field: Humble's Louisiana Delta Farms Co. 1 19-17s-23e, broken sand 10,585-635, perf 32 shots 10,622-626, flow 69.6 bbls 30.8-gr oil, 75% wtr, 316-in, gor 582/1, tp 610 lbs, td 12,007.

SOUTH LOUISIANA NEW PAY TESTS

Cameron Parish—Cameron Meadow Oil Discovery: Magnolia-Humble's Cameron Meadow 43, 28-14s-13w, 2175 s of well 28, ¾ mi s of prod, pay 7545, perf 48 shots 7556-64, and 48 shots 7582-90, flow 40 bbls 39.5-gr oil, 583,000 gas, 8/64-in, gor 13,575/1, tp 3300 lbs, td 7638.

Iberia Parish—Avery Island Oil Discovery: Humble's Petit Anse Co. 10-B, 23-13s-5e, perf 60 shots 9484-94, flow 292 bbls 33.6-gr, 9/64-in, gor 733/1, tp 1400 lbs, td 9866.

Iberia Parish—Weeks Island Oil Discovery: Shell's Smith-State Unit 1, Lse 500-2, 13-14s-6e, pay 13,763, perf 90 shots 13,763-778, flow 552 bbls 33-gr, 10/64-in, gor 1130/1, tp 2750/1, td 14,301.

Vermillion Parish—White Lake Oil Discovery: Union of Calif.'s Vermillion Parish School Board 2-A, (OWWO) 16-15s-13, pay 9906, perf 60 shots 9918-28, flow 188 bbls 36.1-gr, ⅛-in, gor 3977/1, tp 2125 lbs, td 10,600, pb 9962.

MICHIGAN WILDCATS

Mecosta County—Failure: Michigan Consol dated's Seaton 1, ne ne se 7-13n-8w, abnd 1306.

Huron County—Failure: C. W. Teater's Gallarno 1, se ne ne 16-17n-14e, abnd 2733.

Roscommon County—New Gas Horizon in Roscommon Oil Field: E. V. Hilliard's State E-1, ne nw sw 20-21n-3w, Stray sand gas 1470-1525 ft, Dundee 3927, td 4133, pb 1620, 1,100,000 ft gas.

MISSISSIPPI WILDCAT

Adams County—Failure: Phillips' Davey 1, 46-8n-2w, Lwr Tuscaloosa 9990, Comanchean 10,110, abnd 10,514.

MISSISSIPPI OUTPOST

Franklin County—Cranfield Extension: California's Homochitto Lbr. Co. 2, 29-7n-1e, 4710 ft e prod elev 301 df, flw 339 bbls 38.2-grvty oil per day 5/32-in chke from perf 10,302-14 and 10,314-40 ft lwr Tuscaloosa.

MISSOURI WILDCATS

Cass County—Failure: Charles Walters et al's Pickering Ranch 1, sw sw ne 29-46n-32w, abnd 2572 ft.

Nodaway County—Failure: J. F. Palesky's Wallace 1, nwc 10-65n-36w, abnd 2211.

MONTANA WILDCATS

Fergus County — Failure: R. C. Tarrant's Dunn 1, nw sw 2-15n-20e, Lewistown area, abnd 866.

Glacier County — Failure: Carter-Phillips' Lucy Weaselhead 1, c sw ne 28-34n-12w, Milk River structure, abnd 10,102.

NEW MEXICO WILDCAT

Lea County—Failure: Amerada's Record 1,

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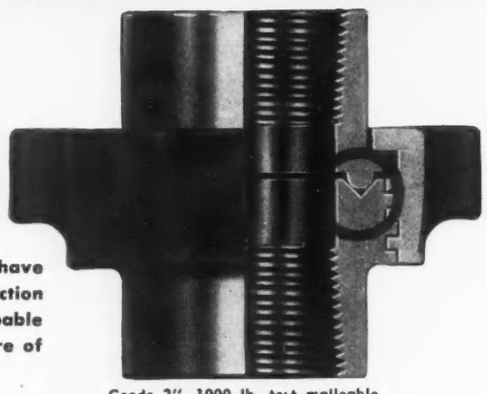

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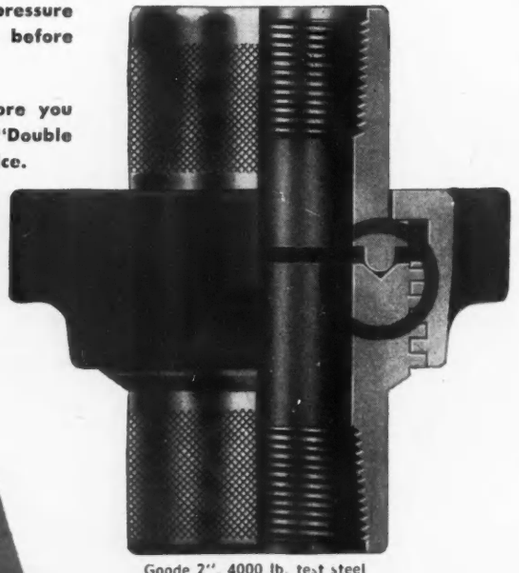

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c nw se 26-19s-35e, anhydrite 1785 ft, salt 1900, Yates 3445, abnd 3499.

OKLAHOMA WILDCATS

Garvin County—Oil Discovery: Continental's Butterly 1, nw sw se 14-1n-1e, pumped 245 bbls oil day, Oil Creek sd 3917-4066 ft, td 4423.

Greer County—Failure: E. K. McLennon's Meadows 1, nw nw nw 27-4n-22w, abnd 3471.

Jackson County — Discovery: Texas Co.'s Hickman 1, sw nw nw 6-1n-19w, pumped 16 bbls oil day, Granite wash 1520-60 ft, td 3032.

Lincoln County—Failure: Stephens Pet. Co.'s Carpenter 1, se se sw 7-12n-2e, abnd 6004.

Noble County — Failure: Westgate-Greenland's Moelling 1, ne se nw 30-21n-2w, abnd 5512.

WEST TEXAS WILDCATS

Garza County—Failure: Mel Richards and Lynn Oil Co. (was Guy R. & Jimmie Rogers') Welch-Pure 1, 220 ft snl and 990 ft wel sect 2, blk 4, K. Aycock sur, elev 2367 ft, Yates frosted 1040, San Andres 1890, Glorietta 2865, Clear Fork 3078, abnd 4001.

Pecos County—Failure: Byrd & Frost, Inc.'s Millar-Gulf 1, c ne ne H&GN Ry. 53, blk 11, elev 2583 ft, abnd 1639.

Terry County—Failure: Fred W. Shield et al's Covert-Stanolind 1, 467 ft out nwc H&OB 29, blk O, elev 3103 ft, anhydrite 2070, Yates 2900, San Andres 4300, abnd 5184.

Yoakum County—Failure: Drilling & Exprolation's Davis 1-D, c sw nw sect 728, blk D, J. H. Gibson sur, elev 3700 ft, anhydrite 2120, Yates 3130, brown lime 4020, San Andres 4520, Clear Fork 6490, Tubb 7080, Wichita-Albany 7700, Abo (green shale) 7990, Wolfcamp 8860, Permian-Pennsylvanian contact 9125, Devonian 10,699, abnd 10,774.

WEST TEXAS OUTPOST

Andrews County—Martin-Ellenburger Field Extension: Atlantic & Phillips' University 1-A-11, 1845 ft snl and 2033 ft wel sect 1, blk 11, 1⅔ mi se extension, elev 3288, anhydrite 1460, Yates 2640, brown lime 3880, San Andres 4200, Tubb 6100, base Permian 7760, Simpson 8055, McKee 8320, Ellenburger 8670, flowed 542 bbls 43.8-gr, gas-oil ratio 187/1, natural via 3/16-in from Ellenburger perf 8680-8740 ft and 8810-60 ft, td 9060.

WEST TEXAS NEW PAY TEST

Gaines County—Doss Field Shallow Discovery: Humble's M. S. Doss 1, c sw sw PSL 1, blk A-24, ¾ mi n by w of 7100-ft pumper, elev 3334 ft, pumped 187 bbls 29.2-gr oil, plus 20 pct water, acidized 29,000 gals, Upper Clear Fork perf 6040-6110; 6150-6210; 6360-80 and 6465-72 ft, td 7181 ft, pb to 6562.

WEST CENTRAL TEXAS WILDCATS

Callahan County — Failure: Boyd Gillespie et al's Windham 1, 220 ft wel and 440 ft nsl BBB&C Ry. 145, abnd 1226 ft.

Coleman County — Failure: Central Texas Gas Co.'s Brown 1, 660 ft snl and 400 ft wel of s½ Wm. Farris sur 279, abnd 2301.

Jones County—Failures: Oscar Donley et al's Pritchard 1, 330 ft out nec T&P Ry. 24, blk 15, elev 1735 ft, abnd 2370.

Pardue & Hilgenberg's Prothero 1, 1650 ft out nec sect 3, E. C. Miller sur 2, abnd 2063.

Shackelford County—Failure: Eltex, Ltd.'s L. G. Davis 1, sw sw sw T&P Ry. 52, blk 13, elev 1837 ft, Bend 4440, Ellenburger 4942, abnd 5095.

Taylor County — Failure: H. W. Snowden O&G Co., Ltd.'s Jones 1, c nw sw S.P. Ry. 4, blk 9, elev 2001 ft, 1st Hope lime 2865, abnd 3250.

NORTH TEXAS WILDCATS

Archer County—Failures: Jennings Dr. Co.'s Perkins 1, 330 ft from sec lor 32, Coffman-Yeats subdiv, sect 6, ATNCL, abnd 4022.

Frank Wood et al's Wilson-McCroy 1-C, nw ne nw ATNCL sect 121, abnd 2250.

Clay County—Failure: L. T. Burns et al's Sanzenbacher 2, 4000 ft out nwc L. N. Sparks sur A-401, elev 942 ft, Bend 5692, abnd 6500.

Cooke County—Failure: Hollandsworth Dr. Co.'s Trew 1, 2860 ft snl and 330 ft ewl 168-ac tract, M. Langham sur A-564, abnd 1663.

Haskell County—Failures: J. D. Hancock et al's Coody 1, 3000 ft out nec J. G. Pitts sur A-339, elev 1428, Palo Pinto 3405, abnd 3502.

Fred M. Manning, Inc.'s Carrigan-Magnolia 1, 1967 ft n and 330 ft w of nec A. Jones sur 114, but in S. C. Robertson sur 40, A-352, elev 1525 ft, Palo Pinto 3280, abnd 3320.

Jack County—Failures: Hanlon & Buchanan's Gillespie 1, 233 ft out nec J. W. Colston sur A-1368, abnd 645.

Hanlon & Buchanan's Stewart 1-K, 233 ft snl and 1167 ft ewl TE&L Co. 2800, abnd 633.

King County—Failure: Humble's Ann Masterson 1, c sw ne sect 19, I.RR Co. sur A-316, elev 1848 ft, abnd 5869.

Wichita County—Failure: D. H. Bolin et al's Slaughter 2, 150 ft nsl and 330 ft wel of w½ blk 315, Waggoner Colony Lands, abnd 2554.

NORTH TEXAS NEW PAY TEST

Archer County—Deep Pay Discovery: L. T. Burns et al's L. F. Wilson 5-P, 990 ft snl and 450 ft wel ATNCL sect 115, offsetting shallow pumper, elev 997 ft, Bend 4862, pump 17 bbls 40-gr and 12 bbls water from Strawn perf 3879-3902, td 4892.

EAST TEXAS WILDCATS

Limestone County—Junked: C. W. Killough et al's Arnet 1, 13,000 ft from sw and 1875 ft from se lines Pedro Varella sur, 5 mi nw Groesbeck, elev 770 ft, Woodbine 2915, Georgetown 3096, Del Rio 3185, jkd 5083.

Rusk County—Failure: L. O. McMillan et al's Hamilton 1, 1040 ft wel and 730 ft nsl of 100-ac tr, or 2950 ft snl and 6700 ft wel J. I. Sanchez sur, 3 mi n New Salem, elev 314 ft, abnd 4190.

SOUTH CENTRAL TEXAS WILDCATS

Atascosa County—Oil Discovery: Humble's A. N. Moursund 1, nely fr Humble's Schorsch 1 gas disc, 660 fr s&el 80-ac tr, Edward Estes sur 1188, Edwards li pay 7362, pump 50 bbls 34-gr, td 7385.

Guadalupe County—Failure: Butler Oil Co.'s H. P. Scrutchen Farm 1, Staples area, 330 se at ra fr sly/swl 53-ac lse, Geo. Allen sur 17, Taylor 650, Austin chalk 765, abnd in chalk 770.

Milam County—Oil Discovery: McCrary Oil Co.'s J. R. & M. A. McCrary 1, 3460 ne of m/nly/swl 560-ac lse, 1400 sw Brazos River, Niles F. Smith sur, 1½ mi n Calvert fld, Nacatosh pay 2104, pump 95 bbls 36-gr, td 2120.

SOUTHWEST TEXAS WILDCAT

Webb County—Gas Discovery: Sun's Isaac Hirsch et al 2, 2000 fr el 2700 fr sl sur 2030, on 2880-ac lse, 1416.8 ne jnkd hole 1, Wilcox pay 6905, perf 130 shots 6905-15, flow 1.4 mln gas, 3/16-in, tp 1900 lbs, td 7530.

LOWER TEXAS COAST NEW PAY TEST

Dewitt County—Yoakum Distillate Discovery: Pure's A. F. Karl 1, (OWWO) 660 fr ne&sel 78.33-ac lse, ½ mi s of Rice 1 disc well, perf 40 shots 8275-85, flow 36 bbls 51.5-gr, 1,750,000 gas, 5/32-in, td 11,334.

UPPER TEXAS COAST WILDCAT

Jefferson County—Failure: Glenn H. McCarthy-Phillips' Weisse et al 1, 750 fr el lot 21 660 fr sl lot 20 Theo F. Koch sbdn 163.6-ac lse, G. W. Grammier sur, abnd 10,379.

UPPER TEXAS COAST NEW PAY TESTS

Hardin County—Saratoga Oil Discovery: L. M. Josey et al's Caswell Tr. Co. 2, 915 fr n&wl 1255 fr el 147-ac tr, BBB&C sur, 3000 fr prod on E flk, pay 5849-65, perf 48 shots 5854-66, flow 128 bbls 39.8-gr, ¼-in, gor 844/1, td 5951.

Matagorda County—Sugar Valley Oil Discovery: Skelly's Gregg Lawrence 1, 467 fr

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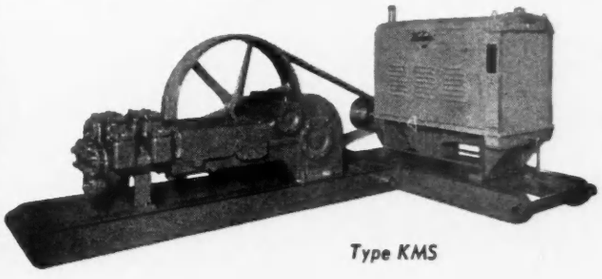

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nwl 227.3-ac tr and P. Burnett-A. S. Sojourner sur, 2950 ne Peterson 1 disc well, pay 8997-9007, perf 8993-95½, flow 168 bbls 32-gr, 3/16-in, gor 616/1, td 10,000.

CANADA WILDCATS

South Saskatchewan — Davidson Failure: Imperial Oil Ltd.'s Davidson 2, lsd 13 10-27-2w3rd, dry hole, abnd 4577.

Central Alberta Plains—Kinsella Failure: Imperial Oil Ltd.'s Kinsella 11, lsd 7, 28-47-8w4, dry hole, abnd 2030.

WILDCAT STARTS

ALABAMA

Marion County: Harry L. Cullet's H. V. Lewis 1, se ne se 23-11s-14w, lcn.

Pike County: Rudd & Madtingly's W. F. Spencer 1, c ne nw 26-8n-20e, lcn.

CALIFORNIA

Kern County: Gene Reid's Deepwell 63-X, 4-26s-27e, Dyer Creek area, drlg.

Standard's K.C.L. 24-32, 30-11n-22w, Santiago area, lcn.

Fresno County: Seaboard's Corehole 5, 16-17s-14e, Cantua Creek area, lcn.

Tulare County: Gene Reid's Wing 1, 22-23s-27e, Ducor area, ru.

Tehama County: North Counties Development's Brush Creek 1, 30-27n-5w, Blossom area, ru.

Los Angeles County: Six Companies' Fee 1, 2-3s-15w, El Segundo area, lcn.

J. Paul Sievers' Atlas 1, 17-2s-11w, Whittier area, lcn.

Orange County: D. D. and Dorothy Dunlap's Aldrich 3, 18-6s-10w, Huntington Beach area, building rig.

A. W. Lyddon, Operator's Lamb Community 2, 7-6s-10w, Huntington Beach area, lcn.

Ventura County: Universal Cons. Oil Co.'s T. E. Adams-Aguirre 2, 13-4n-18w, Del Valle area, ru.

Daniel Hunsaker, Trust's Anlauf 6, 21-4n-21w, Santa Paula area, drlg.

ILLINOIS

Clinton County: J. L. Gorard's Laux 1, se nw ne 7-3n-2w, lcn.

Coles County: Crabapple Creek Oil Co.'s Bareither 1, ne ne sw 32-13n-7e, drlg.

Charles Venn et al's Behren 1, se se sw 29-13n-8e, drlg.

Perry Fulk et al's Craig 1, ne ne ne 14-13n-9e, drlg.

Effingham County: J. Lichlyter et al's Wendt 1, ne ne ne 16-6n-7e, lcn.

J. A. Burhans et al's Flinn 1, se ne nw 25-6n-7e, lcn.

Jefferson County: Essex Royalty's Carpenter 1, nw ne se 3-1s-1e, drlg.

Marion County: Nat'l Consumers Oil Co.'s Pickett 1, se ne sw 16-2n-4e, lcn.

Richland County: W. W. Shaffer et al's Telford et al 1, nw nw nw 11-3n-10e, lcn.

Shelby County: C. B. Mansfield's Burkhurst 1, se sw se 8-10n-3e, drlg.

Wayne County: Geo. S. Engle's Kinade 1, sw nw ne 23-2n-9e, lcn.

White County: Phillips' Coombe 1, sw se sw 31-5s-10e, lcn.

INDIANA

Gibson County: Leavitt Gray's Powell 1, nw ne se 12-2s-12w, lcn.

T. C. Billups' Epperson 1, se se ne 9-4s-11w, drlg.

La Porte County: Godfrey Drlg.'s Fischer 2, nw se ne 19-37n-2w, lcn.

Pike County: A. W. Warner's Schmidt 1, ne ne se 18-1n-8w, lcn.

Spencer County: H. L. Lambert et al's Bullock 2, sw nw ne 34-6s-7w, lcn.

Wabash County: Rich Valley Dev.'s Houlihan 1, nw sw sw 11-27n-5e, lcn.

KANSAS

Butler County: Dunne & Strait's King 1, se se nw 3-24s-4e, mim.

Rex & Morris et al's Perkins 1, sw sw sw 27-25s-4e, cellar.

E. H. Adair's Johnson 1, se sw nw 29-25s-4e, lcn.

Beech Aircraft's Kirkpatrick 1, se sw ne 14-28s-3e, ru.

Cowley County: Earl Wakefield's Oglebee 1, sw ne ne 7-32s-4e, br.

Ellis County: Phil-Han et al's Hamburg 1, nw nw ne 4-12s-20w, lcn.

Ford County: E. M. Swearer's Brown 1, sw sw sw 4-26s-23w, rur.

Harvey County: Dutton & Hicks' Woulfe 1, c s½ sw nw 28-24s-1e, cellar.

Marion County: S. A. Yarnell's Waner 1, sw sw ne 14-20s-4e, lcn.

Pawnee County: Campbell & Kuhn's Keeley 1, ne ne nw 9-21s-15w, sur.

Rice County: Sharon Drlg. et al's Leatherman 1, ne se se 35-21s-9w, cellar & pits.

NORTH LOUISIANA

De Soto Parish: Kerr-McGee Oil Co.'s Nabors 1, c sw se 28-12s-14w, Travis Peak test.

Grant Parish: Lawrence & Manning Jacobs' L. C. Swope Est. 1, 18-9n-1e, s Georgetown fld, sd 1100, 4500-ft test.

Red River Parish: M. T. Halbouty's Franklin Realty Co. 1, 24-11n-10w, 1300-ft test.

M. T. Halbouty's Willie Savill 1, 36-11n-10w, spud 1300-ft test.

Richland Parish: E. G. Hooper-Geo. B. Franklin's Cochran & Franklin 1, (OWDD) c nw se 14-17n-8e, otd 3450.

SOUTH LOUISIANA

Acadia Parish: Harry Fotiades' J. R. Watson 1, 24-7s-1e, 1½ mi n of S. Bayou Mallet prod, 10,000-ft test.

Beauregard Parish: Magnolia's Powell Lbr. Co. 1, 1980 s 510 e nwc 17-6s-11w, 11,000-ft test.

Calcasieu Parish: Sohio's Farmers Ld. and Canal Co. 1, sect 27-10s-7w, 10,500-ft test.

Evangeline Parish: M. C. McGehee, Jr.'s Hawkins Heirs 1, 23-1s-1w, 12 mi n Pine Prairie fld, 10,500-ft test.

Jeff Davis Parish: Barnsdall's Powell Lbr. Co. 1, 31-7s-4w, E. Edna area, dk built for 9000-ft test.

MICHIGAN

Allegan County: J. E. Hood's Sesyskowski 1, ne se ne 20-1n-16w, dr.

Kent County: Oil Producers' Goodfellow 1, sw sw se 28-9n-12w, lcn.

Isabella County: Bliss Keeler's Anderson 1, sw nw nw 2-13n-4w, drlg.

Mecosta County: Ashby's Battle 1, ne sw se 18-16n-10w, rig.

Muskegon County: E. J. Bouwsma's Devine 1, ne nw sw 9-12n-15w, drlg.

Ogemaw County: Sun's Adams 1, c nw 12-22n-3e, lcn.

Ohio Oil Co.'s Mio G-3, c ne 29-24n-4e, drlg.

Saginaw County: Bridgeport's Allington 1, ne sw se 10-1s-16w, drlg.

MISSISSIPPI

Adams County: Ohio Oil Co.'s Armstrong 1, 12-5n-3w, lcn.

Forrest County: Superior's Cassie Bradford 1, sec sw nw 1-3n-13w, dk.

Jasper County: Harold L. Duck's Masonite Corp. 1, sw sw 9-10n-11w, lcn.

Madison County: Union Prod.'s Cameron A-1, nw nw 2-9n-1e, lcn.

Wayne County: Humble's E. L. West 1, ne se 18-9n-7w, lcn.

MISSOURI

Vernon County: Ward et al's Scott 1, c ne ne 21-36n-31w, drlg.

MONTANA

Custer County: Pure's State 1, c w½ sw se 36-2n-51e, Maxwell Butte structure, lcn.

Cascade County: Thumbert's Sanborn 1, nw se 23-21n-1w, Sun River area, drlg 100 ft.

Petroleum County: Hanlon-British Dominion's Gov't. 2, ne se sw 6-14n-31e, drlg.

Pondera County: Pilot Prod. Co.'s 1, nw nw nw 18-29w-2w, Conrad area, drlg.

NEW MEXICO

Chaves County: DeKalb Agricultural Assn.'s Nellie T. Lewis-Federal 1, c se sw 13-10s-25e, lcn 6500-ft pre-Permian test.

DeBaca County: Pure's U. S. Gov't. 1, c nw ne 31-3n-28e, lcn 7000-ft Pennsylvanian test.

Lea County: Amerada's Guy H. Hooper 1, c nw ne 27-19s-35e, sp.

OKLAHOMA

Carter County: W. F. Turner's George 1, sw sw nw 17-5s-1e, drlg.

Garvin County: Schineder & Pennington's Kirkpatrick 1, se se nw 14-4n-3e, drlg.

Grady County: J. R. Porter's Willa Mae 1, nw nw ne 28-3n-7w, lcn.

Greer County: Woodruff & Everetts' Hohn 1, ne sw ne 7-6n-21w, lcn.

Hughes County: Mid-Continent's Rogers 1, ne se sw 26-9n-8e, derrick.

Lincoln County: Continental's Dewitt 1, se sw se 13-13n-3e, lcn.

Major County: Wilcox Oil Co.'s Coulter 1, sw sw nw 15-22n-9w, lcn.

WEST TEXAS

Crockett County: Ben Banner et al's Shannon 1, 6590 ft s and 6642 ft w of nec League 1, Archer CSL sur, lcn 2200-ft cable test.

Magnolia's Shannon 1-B, ne ne ne E.L. & Ry. 26, blk BB, 1¾ mi se World-Powell fld, lcn 2700-ft test.

Hockley County: John O'Neal Drilling Co.'s W. T. Coble-Magnolia 1, 660 ft out swc Labor 15, League 66, Hardeman CSL, 1½ mi ne of Whiteface sector of Slaughter field, lcn.

Stanolind's Geo. L. White 1, 660 ft out nwc Labor 3, League 704, State Capitol Lands, 3¾ mi n by w of Yellow House pool, lcn 5500-ft test.

Howard County: Barron Kidd and A. W. Cherry's O. E. Hamlin 1, se se se T&P Ry. 15, blk 33, T-2-N, lcn 4000-ft rotary test.

Loving County. Argo's T. P. Land Trust 1-C, c sw se T&P Ry. 7, blk 55, Tsp. 1, 1⅛ mi nw Mason field, lcn 4000-ft Delaware test.

Winkler County: Ralph Lowe et al's Sealy-Smith-Stanolind 1, c sw sw sect 71, blk A, G&MMB&A sur, 6500-ft cable test, drlg 450 ft.

WEST CENTRAL TEXAS

Coleman County: Stewart's Burroughs 1, nw nw sw HT&B Ry. 4, lcn 3500-ft test.

Concho County: Northern Ordnance, Inc.'s J. H. Stansberry 1, 657 ft snl and 1981 ft ewl L. Gleissner sur 1979, lcn 3700-ft rotary test.

Jones County: V. E. Autry and W. L. Huddleston's Nellie Van Horn 1, 990 ft out swc T&P Ry. 38, blk 15, lcn 2000-ft cable test.

M. M. Travis et al's Reeves 2, 990 ft snl and 1696 ft ewl s½ BBB&C Ry. 164, lcn 2000-ft cable test.

NORTH TEXAS

Archer County: Fain & McGaha's Wm. E. Huff 1, 1650 ft nsl and 330 ft ewl of 369-ac

DAN L. CLARK W. M. AVERILL RUPERT COX

DAN L. CLARK DRILLING CO.

Drillers of

OIL AND GAS WELLS

•

POWER AND STEAM RIGS

NIXON BUILDING

CORPUS CHRISTI, TEXAS

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The OIL WEEKLY'S TRADING POST

USED EQUIPMENT FORUM

CLASSIFIED ADS . . . EQUIPMENT . . . SERVICES . . . PERSONNEL

FOR SALE

FOR SALE

■ COMPLETE POWER RIG—A REAL BUY! Cash or Terms.
1—126′ Lee C. Moore Jackknife Derrick w/ 11 foot substructure, walks, runarounds, etc.
5500′—4½″ Range II, 16.16-lb., full hole drill pipe
1—Emsco power pump, 7¼x14 with GAK Wax. engine, new
1—6¾x14 Gardner-Denver power pump w/ XHE Hercules motor, overhauled
1—Hopper 3C Drawworks
1—XHE Hercules motor, overhauled
1—Rotary table, Emsco oil bath, R. B. completely reconditioned
1—Emsco coring unit with Lincoln motor
1—B-J 150 ton hook
1—13⅜″ SDA Cameron prevented with 13″ Cameron valve
2—Sets Baash-Ross tongs, complete, late model, all lugs up to 10¾
1—Shale shaker (Made two wells)
1—6″ GS Swivel
1—4″ Kelly, 38′ long, Eue.
1—Martin Decker Weight indicator
1—Set Baash-Ross drive bushings
2—Kohler 5 K.W. light plants
2—7x12 steel tool houses
1—2½″x55′ drilling hose
All tools, accessories to make complete rig ready for service. This rig can be inspected in my yard in Alice, Texas. Phone 619, 620 or 1169-W. **Harry B. McCartney.**

FOR SALE

50— 500 Barrels
10— 1,000 Barrels
20— 5,000 Barrels
4—10,000 Barrels

Heavy A.P.I. New closed bolted type steel tanks now located at Ogden, Utah. Can quote reasonable prices in order to move from present premises at once.

JOS. GREENSPON'S SON PIPE CORP.
National Stock Yards, St. Clair County, Ill.

■ FOR SALE OR LEASE—Late model Gravity Meter and complete automotive and surveying equipment for Gravity Field crew. Address: Box 19, c/o The Oil Weekly, Houston, Texas.

■ TD-18 Tractor with winch; TD-14 tractor with dozer and winch. Good Condition, cheap. Lee Construction Co., Foot of 75th Street, Houston. Telephone W-4125.

■ Standard Drilling Outfit, complete, A-1, steel rig. New Young 145-hp. engine, new 5000 ft. lines. $8500 or trade for Bucyrus Spudder. L. A. Bolte. Rt. No. 2, Brunswick, Ohio. W. Richfield 2423.

■ FOR SALE: Shallow lease with six wells, drilling equipment, pumping power, winch tractor, boiler, etc. Morgan Quine, 2035 College, Beaumont, Texas.

NEW CEMENT LINED PIPE

44,000 ft. 6⅝″ x .280 wall, 18.97# Lapweld, with ¼″ cement lining. Threads and protectors, less couplings. Location: Cambridge, Ohio.

HORWITZ PIPE & SUPPLY COMPANY
Tulsa, Okla.
P. O. Box 2534 **Ph. 2-9128**

GEOLOGICAL MAPS

Covering the Gulf Coast of Texas and Louisiana, showing all new discoveries and all dry holes drilled to April 15, 1946. Dry holes show well-elevations, total depths, and paleontological data. Oil fields colored green, gas fields red, sulphur purple, geophysical prospects yellow, depleted fields brown. Gulf Coast of Texas in one section size 4½ ft. by 10½ ft. Scale one inch to two miles. Price on paper $50.00, on linen $75.00. Louisiana Gulf Coast covers from T3N to the Gulf drafted in two sections, scale one inch to two miles. Hand colored the same as the Texas Gulf Coast. Size of each section 3½ ft. by 10 ft. Price of each section $25.00 on paper and $37.50 on linen.

STATEWIDE MAP COMPANY
J. 2-7304
1005 Isabelle No. 22 **Houston, Texas**

FOR SALE

■ DRILLING EQUIPMENT—2 Sullivans for diamond, core and test hole drills.
1—Star No. 28 spudder & beam machine
1—Star No. 25 spudder & beam machine
1—Leidecker No. 32 all steel, beam machine
1—Armstrong No. 50 spudder
1—Wichita No. 61 heavy duty spudder
Standard outfit, complete with 80′ steel derrick. Good used equipment. Complete stock of cable tools, prices right. S. W. PRESSEY, Pueblo, Colo.

■ FOR SALE: At Aransas Pass, Texas; Three 180 RPM Clark Two Cycle Gas Compressors 16″ x 20″ Power Cylinders and 7¼″ x 20″ Compressor Cylinders, One 5½″ x 20″ Compressor Cylinder Type VS, One 13″ x 20″ Type "S" Double Acting Compressor Cylinder. Condition Very Good. Price $5000.00. Bryant & Saner, Box 107, Kerrville, Texas.

WORLD'S BEST BUY

A PIECE OF TEXAS—

on Houston Ship Channel 70 acre industrial tract; other ideal sites with trackage in the industrial area for plants, supply stores, oil and service company warehouses. Write or call Ralph R. Wallace, 5614 Telephone Road, Houston, Texas. Phone W-92087 or W-92313.

WANTED TO BUY

■ WANTED: Model F or J or large Wichita Spudder. Would consider Super D. if late model and good shape; also Core drill rig heavy enough to set 1000 ft. 5½ O.D. Ringle Drilling Company, 3433 Purdue Pl., Albuquerque, New Mexico.

NOTICES

■ WANTED: Operators to finance and further develop proven and semi-proven oil and gas properties in Montana.
Hamilton & Hamilton, Inc.
Box 1605, 535 Ford Bldg.
Great Falls, Montana.

Perpetually participate in coming Florida oil development by owning income producing fee mineral rights. Geologically selected, on geophysical prospects, leased to major companies, at predevelopment prices. Write **Petroleum Geologist, Box 1701, Houston, Texas.**

NOTICE

Mr. David A. Bennett announces that Mr. Roy M. Frisby is no longer employed by him. All matters pertaining to the oil operations of David A. Bennett and J. W. Sorrells, formerly handled by Mr. Frisby, should be referred to

BENNETT & SORRELLS
Oil Producers
232 East Ohio Street
CHICAGO 11, ILLINOIS

tr, Michael Fanning sur A-128, 4300-ft test, drlg 3495.

Clyde Gibson Drilling Co.'s Wilson-McCory 1, 330 ft out sec lot 1, ATCL sect 67, lcn 4500-ft test.

Grace & Grace's S. T. Russell 1, 150 ft out swc lot 7, Isaac Holman sur A-162, lcn 1450-ft rotary test.

Smiley-Norwood Drilling Co.'s A. L. Harris 1, 1050 ft nsl and 150 ft ewl blk 71, J. W. Harris subdiv, lcn 1450-ft rotary test.

Clay County: Wayne McCormick et al's E. L. Holloway 1, 550 ft nsl and 642 ft wel blk 61, Parker CSL sur, lcn 350-ft cable test.

Cooke County: Anderson Drilling's E. S. Ramsey 1, 1320 ft snl and 330 ft ewl B. Lusk sur A-569, lcn 2500-ft rotary test.

Norwood & Anderson's M. W. Thomason 2, 430 ft wel and 770 ft nsl of 223-ac tr, or 800 ft wel and 3400 ft nsl T. Bell sur A-52, lcn 1200-ft rotary test.

Cottle County: Anderson-Prichard's C. L. Lynch 1, 1787 ft nsl and 2125 ft wel sect 66, J. Poitevent sur, lcn 6000-ft Ellenburger test.

Jack County: Hanlon & Buchanan's J. A. Burt 1, 1094 ft nsl and 233 ft ewl of J. Anders sur A-15, lcn 1000-ft rotary test.

Hanlon & Buchanan's J. D. Gillespie 2, 233 ft from m/e/e and 233 ft from m/s/s lines of J. B. McNeil sur A-1796, lcn 1000-ft rotary test.

Wichita County: D. H. Bolin et al's V. I. Siler 1, 330 ft ewl and 990 ft nsl blk 296, Waggoner Colony Lands, mim for 2700-ft rotary test.

EAST TEXAS

Cherokee County: Clark-Cowden Dr. Corp.'s Southern Pine Lumber Co. 1, 330 ft out of nec of west 100 ac of south 200 ac of 280-ac lse, Nicholas Newton sur, lcn 5500-ft Woodbine test.

Robertson County: Harry L. Edwards Drilling Co.'s W. C. Anderson 1-C, 2400 ft sw of I&GN Ry. tracks and 1050 ft from nw line of Jas. Webb sur, sd for repairs 2105 ft.

SOUTH CENTRAL TEXAS

Bastrop County: J. C. Tittle's Martin McDonald 1, 330 fr el 1025 s of nel 152.4-ac lse, Martha Barker sur, ru.

Milam County: Prod. Serv. Co.'s Rd. Ellison et al 1, 330 fr wly/se&swl 320-ac tr on 545-ac lse, L. Taylor sur, lcn.

SOUTHWEST TEXAS

Duval County: Humble's Dallas Jt. Stk. Land Bank 1-C, 1263 fr wl 2196 fr nl F. C. & C. K. Gravis sur 6, on 5755-ac "C" lse, 5 mi w Peters fld, 4000-ft test.

Starr County: Billstrom, Armstrong and Blackwall's Ramona Salinas de Mendoza 1, 480 fr sl 1209 fr el sur 302 on 160-ac lse, 1450-ft test.

LOWER TEXAS COAST

Goliad County: P. R. Rutherford's Henry Riemenschneider 1, 467 fr nwl 467 fr nl 50-ac lse, 1250 fr sel H. M. Sally Lge, 8500-ft test.

Live Oak County: Stanolind's L. A. Reagan 1, 2467 fr nel 1650 fr sel 570-ac lse, Jas. McGloin sur, 8000-ft Wilcox test.

Refugio County: Seaboard of Del.'s H. V. Smaystrla 1, 467 fr s&el 60-ac lse, e½ 160-ac tr, Jos. Reese sur, 8000-ft test.

UPPER TEXAS COAST

Austin County: Ohio's Orange Hill Unit 1-B, 330 fr swl 1400 fr sel sect 209, 676-ac lse, H&TC sur, 10,500 se Roy Keachele 1, disc well, 9500-ft test.

Harris County: Allaun & Richardson's F. Dopslauf 1, 781.8 fr nl 499.6 fr el 40-ac lse, WCRR sur, blk 2, sect 22, 8000-ft test.

Montgomery County: McKay Donkin-Lloyd H. Smith's C. L. Rawson 1, 1320 fr nel 1500 fr sel 346.2-ac tr, Wm. Starrock sur, 1½ mi e of Bilnoski's Foster 1 dry hole, 10,000-ft test.

Wharton County: Choate & Davis Rotary Drlg. Co.'s Chas. A. Davis 1, 2500 fr nel 650 fr sel 274.29-ac tr, S. Castleman sur, 5500-ft test.

WYOMING

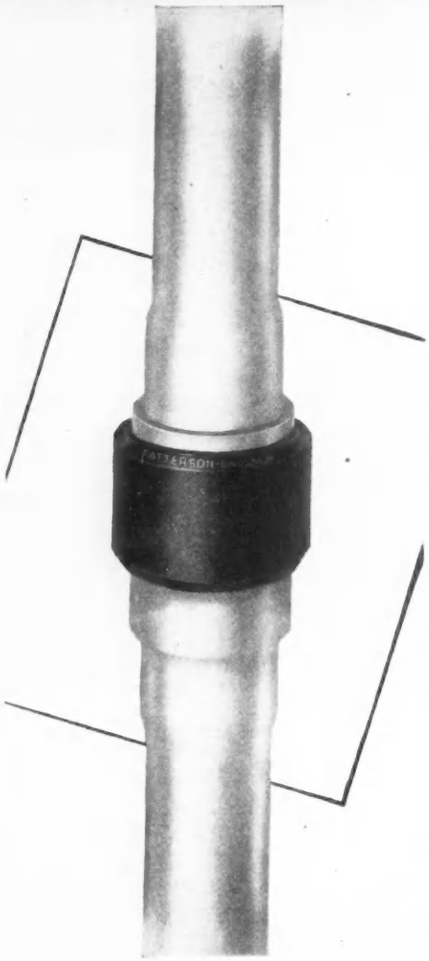
Carbon County: Ohio's Harrison & Cooper 3, nw se nw 11-19n-78w, Rock River area, drlg 165 ft.

HELP WANTED

Looking for young men with experience in handling material who desire to work for large oil company in Venezuela. Please write to Frank R. King, 2705 Esperson Building, Houston 2, Texas, at once. Please furnish as much information as possible in your letter.

■ SEISMOGRAPH INTERPRETERS — Large, aggressive, expanding independent producing Company wants two experienced Party Chiefs or Supervisors to do geologic interpretation of reflection seismograph data in West Texas. Permanent job, good salary, housing guaranteed, permanent location. Write giving personal history, education and experience. Your replies will be kept confidential. Our men know of this ad. Box 22, The Oil Weekly, Houston, Texas.

"Best Bet Yet"



Cut Metal-to-Metal Contact

These oil-proof, insulating, wear-resistant, plastic tubing protectors are an integral part of the tubing collar. Made in all sizes, they prevent the metal-to-metal contact that causes many expensive "wet" jobs in pumping wells. Without this contact, the collars do not wear holes in the casing.

See Composite Catalog

Patterson-Ballagh TUBING PROTECTOR

LOS ANGELES · HOUSTON 10 · NEW YORK 6

SQUEAKS from the BULL WHEEL

Prologue

Several of the jokes on this page are very ladylike. I know they are ladylike because they were told me by a lady. And I know she was a lady because she came out of a door that said so.

A Bird of a Yarn

A mother took her little daughter aside and told her about the birds and bees. Next day, very proud of her new-found knowledge, the little girl stopped a friend, much younger than herself, and inquired: "Do you know who made you?"

"You mean originally—or recently?"

This Curious World

This is the season when a lot of lucky people take off from work and go fishing. The rest of us do our drinking at home.

A friend of our has three girl friends whom he calls Appendix, Rainbow and Checkers. He calls one Appendix because everybody takes her out. He calls the second Rainbow because she has red hair, white teeth, blue eyes and greenbacks. And he calls the third Checkers because she jumps every time he makes a wong move.

She was only a gear-maker's daughter but she could outstrip them all.

She thought her boy friend was going to take her to Miami to marry her, but he only went to Tampa with her.

Why Angels Fall

A young couple on their way to be married were killed in an auto accident. Presently they arrived at the Pearly Gates and were welcomed by St. Peter, who wished them a good time in the Green Pastures.

"Thanks," said the girl, "but you know we were killed before we had a chance to be married."

"Yes, I know. I'll fix that."

A month passed; then a year, 100 years and then 1000 years. Finally, being young and impetuous, the girl began to fret. "Look here," she chided St. Peter, "have you forgotten about my wedding?"

"Certainly not, my child. I'm merely waiting for a justice of the peace to arrive."

The Era of Slacks

"Who was that lady I saw you with last night?"

"That was no lady. It was my brother. He just walks that way."

We Must Save Grain

"Do you approve of tight skirts?"

"Nope, I think women should leave liquor alone."

Definitions

Virtue: Insufficient persuasion.

Sugar daddy: A form of crystallized sap.

Life Is Like This

If she looks young, she's old.

If she looks old, she's young.

If she looks back, follow her, my boy—and hurry.

Insurance

"Whatcha got there, chum?"

"Gallon of whiskey."

"How come?"

"Going in the woods. Might get bit by a rattlesnake."

"Whatcha got in the box?"

"Rattlesnakes."

Let's Be Practical

"Teacher, may I leave the room?"

"No, Johnny; stay and fill the ink wells."

How to Win Friends

The porter watched the fat gentleman waddling after the departing train in frantic futility. "Miss your train, boss?"

"Certainly not, you chump! I didn't like the color of the danged thing and chased it clean out of town!"

Wanted a Receipt, Maybe

A man died and left $100 each to an Englishman, Irishman and a Scotsman, on condition that they each put $10 in his coffin.

The Englishman dropped in his $10 and the Irishman did likewise. Then along came the Scotsman, who put in the coffin a check for $30 and took out the $20.

BETTER Steel Forgings for OIL WELL EQUIPMENT

BEAUMONT

WELL WORKS COMPANY

BROOKE TODD, General Manager — INCORPORATED BEAUMONT, TEXAS

Standco NO-SMOKE

STANDCO BRAKE LINING

Is the driller's best friend because it makes the easiest brake known and "feeds off" evenly while drilling. It never scores brake rims. See page 2808 Composite Catalog.

Standco Brake Lining Co.

HOUSTON

DR. MONROE E. SPAGHT has been named vice president of Shell Development Company, research organization, it was announced by **S. BELITHER,** executive vice president of Shell Oil Company, and **A. E. LACOMBLE,** president of Shell Development Company. Dr. Spaght will leave San Francisco, where he has been manager of Shell Oil's manufacturing department, and establish his headquarters in New York. He recently returned to Shell after a long absence during the war with technical military missions in Germany and Japan.

Dr. M. E. Spaght

* * *

BOB SWESNICK, who is working on his doctor's degree at the University of Oklahoma, has joined the staff of Anderson-Prichard Oil Company, Oklahoma City.

* * *

N. RAYMOND LAMB, for eight years in the geological and engineering departments of Continental Oil Company, has joined the New Mexico Bureau of Mines and Mineral Resources as field petroleum engineer, with headquarters at Artesia. He will study production problems of southeastern New Mexico fields, especially problems of secondary recovery.

* * *

DAVID DAY, vice president of Richfield Oil Corporation; **H. C. GRIMSLEY,** manager of industrial relations for the marketing department of General Petroleum Corporation; **HUGH COLVIN,** Union Oil Company; and **R. C. McCURDY,** Shell Oil Company, were speakers on the first of a series of forums at Harris Hall on the University of Southern California campus, sponsored by the Los Angeles Junior Chamber of Commerce, to provide information for veterans.

* * *

RALPH B. LLOYD, president of the Lloyd Corporation, and **C. P. WATSON,** vice president of Seaboard Oil Company, are among the cochairmen of the regional conference of the National Association of Manufacturers to be held in Los Angeles May 15.

* * *

COMMANDER GUS COOK has been elected a vice president of Republic National Bank of Dallas. A former vice president and cashier, as well as director, of Oak Cliff Bank & Trust Company, Cook was deputy chief and later chief of the Finance Division, on the staff of Adm. S. M. Robinson, chief of the Office of Procurement and Material. Cook was graduated from the school of business administration in the University of Texas in 1928, and went directly to the Republic National Bank, where he became an assistant auditor. He became vice president, cashier and director of the Oak Cliff Bank & Trust Company in 1933, which position he held until his enlistment in the Navy in February, 1942. He still is a director of the Oak Cliff bank.

* * *

A. E. (BUD) HARRIS, JR., former flight engineer and recently released from the U. S. Army Air Corps, has joined Oil Base Mud, Inc., as a representative and consultant in the Los Angeles basin area.

* * *

W. D. (STEVE) DAVIDSON, director, vice president and chief engineer of Emsco Derrick & Equipment Company, will retire June 1 after 23 years of service. Born in Massachusetts, he was graduated from the Springfield Technical School, and spent many of his early years in engineering departments of the automobile industry. His oil tool experience began in 1912 with Union Tool Company, which he served 11 years as a designing engineer and later as chief draftsman. In 1923 he joined Emsco Tool Company at its inception as chief engineer. Emsco Tool Company was merged with Emsco Products Company in 1926 and became known as Emsco Derrick & Equipment Company. He has for a long period of years been prominent in the Production Division of API, and has served on several of its committees. He is also a charter member of Petroleum Production Pioneers.

W. D. Davidson

W. G. WARNOCK has been named head of Mid-Continent Petroleum Corporation's Tulsa materials department, which supervises the activities of the purchasing, priorities, and inventories and materials divisions. **S. L. GILLIAM,** purchasing agent since January, 1941, will continue as head of the purchasing division, and **J. REX WOLFE,** former assistant to Warnock in the priorities and inventory control department, will head the inventories and materials division.

W. G. Warnock

* * *

J. M. KIRBY has been appointed exploration superintendent, Western Division, The California Company, with headquarters in the United States National Bank Building, Denver.

* * *

L. B. HERRING of Jackson, Miss., has been named manager of the oil and gas division of the Second National Bank, Houston. Herring was born in Fulton, Ky., was graduated from the University of Kentucky in 1922, and has since been continuously employed in oil and gas industries. He moved to Texas in 1923, serving in turn The Atlantic Refining Company, Marland Oil Company and a firm of oil and gas consultants in Fort Worth. He became an independent consultant in 1935, his work involving evaluations of oil and gas properties for banks and other concerns. At the beginning of the war he was named to a group of seven geologists who made a survey for the government to determine the reserves and availability of natural gas, condensate and natural gasoline in Mississippi, Arkansas, Louisiana, New Mexico and Texas.

L. B. Herring

WALLACE B. PARDOE of Grand Rapids, independent operator, and former secretary of the Oil & Gas Association of Michigan, has been named executive manager of McClanahan Oil Company, succeeding **ARTHUR H. LEDBETTER** of Mt. Pleasant, who was elected secretary of the Oil & Gas Association of Michigan January 1. Pardoe's appointment followed reorganization and election of a new board of directors earlier this year when **CHARLES S. HALE** of New York was made company president succeeding **JOHN BRUUN** of Grayling. Pardoe announced removal of company offices to Grand Rapids. Pardoe went to Michigan in 1927 with Shell Oil Company and resigned in 1933 to operate independently.

Wallace B. Pardoe

* * *

H. H. CAVELER, assistant to the vice president in charge of production, Phillips Petroleum Company, discussed "The Erath Cycling Operation" before the Petroleum Accountants Society of Oklahoma at Tulsa recently. **HILARY D. MAHLIN,** tax attorney for Phillips, spoke on "Tax Problems—Unit Operations."

* * *

LAWRENCE S. REED, president of the Texas Gulf Producing Company for two years, has been reelected. He was elected vice president in 1942, has been chairman of the board of directors, and at present is a member of the board.

* * *

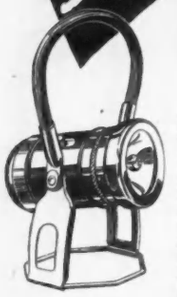
W. H. WYNN, Michigan district geologist, Sinclair-Wyoming Oil Company, has been transferred to the company's Oklahoma City division, effective May 1. Wynn opened the company's first Michigan office five years ago. **E. R. KEMP** has been transferred to Mt. Pleasant to succeed Wynn. He recently returned from Venezuela, where he was with Sinclair.

* * *

P. A. MEYERS, associated for ten years in the Geological Department of the Pan American Production Company, is now associated with **CLAUDE B. HAMILL** at the Pan American Production Company in the Mellie Esperson Building, Houston.

Gotkool
WATER CANS
& COOLERS
GOTT Water Cans are the practical way to keep drinking water cool for long periods, protected from impurities and always handy to the job. Snug fitting large removable top, strongly built to withstand rough usage. GOTT Water Coolers have extra large covers and a handy non-leaking push button faucet. Your Supply Store has them, get one today! . . . . . .
Gott
GOTKOOL WATER CAN
Made in 1½, 2, 3, 5, 10, 15 and 20 gallon sizes. (Push-Button Faucet at slight additional cost.)
GOTKOOL WATER COOLER
Made in 2, 3, 5, 8, 10, 15 and 20 gallon sizes with Push-Button Faucet.
H. P. GOTT MFG. CO.
WINFIELD, KANSAS
KEEP PURE DRINKING WATER ALWAYS HANDY

Safety & Thrift
COMBINE IN THIS
FOCAL-RAY EMPIRE
LANTERN
(MODEL 940 UL)



• OIL-MEN, everywhere, approve this *spark-proof* FOCAL-RAY Lantern, with its wide adjusting range—from a beam to a floodlight at one turn of the lens. Flexible Directional Beam. Wireless Sliding Switch. Easy Grip Handle. Runs on 6-Volt Lantern Battery.

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DRILL CLAY

QUICK SEALING WITH MINOR WATER LOSS ASSURES SAFE, RAPID DRILLING

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BOOMERS
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OIL FIELD HAULING?

You can get them now! Norton Type "B" and Type "J" drop forged, heat treated steel Load Binders (Boomers) are ready for immediate delivery. Order them through your jobber.

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EQUIPMENT CO., Inc.
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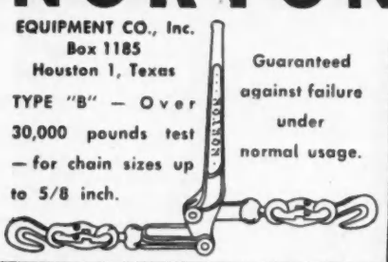
Houston 1, Texas

TYPE "B" — Over 30,000 pounds test — for chain sizes up to 5/8 inch.



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MEN IN THE INDUSTRY NEWS

BOYD WATSON, district manager of the New York office of the Spang-Chalfant division of The National Supply Company, retired May 1 after 41 years with the division and its predecessor, Spang-Chalfant, Inc., He

Boyd Watson

W. J. Stanton

first served Spang-Chalfant in the legal department, later to be transferred to the sales organization as district manager in Pittsburgh, from which post he went to vice president of the firm. **W. J. STANTON,** with Spang-Chalfant for more than 14 years, will succeed to the position of district manager of the New York office. Prior to joining Spang-Chalfant, he spent 17 years with General Electric Company, 6 years as New York sales manager of Ohio Brass Company and 2 years in Cuba in the manganese mining industry. He is vice president of the Engineers Club in New York City.

• • •

W. S. EVERETT, former lieutenant commander in the Office of Inspector of Naval Material, has been appointed sales engineer for Enterprise Engine & Foundry Company. A graduate in physics from the California Institute of Technology, he also holds a master's degree in mechanical engineering and is active in the American Society of Mechanical Engineers, Society of Automotive Engineers and American Statistical Society. His background includes several years of machine design, petroleum plant installation and general plant engineering with the Standard Oil Company of California and with Colgate-Palmolive-Peet Company.

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D. R. GUINN, geologist for Cities Service Oil Company, was elected president of the East Texas Geological Society. **T. H. SHELBY, JR.,** Humble Oil & Refining Company, and **GEORGE ELY,** Continental Oil Company, all of Tyler, were chosen vice president and secretary-treasurer, respectively.

Deaths

WILLIAM C. DICKERMAN, New York business executive and 50-year veteran of the railroad equipment field, died April 25. Upon graduation from Lehigh University at Bethlehem, Pa., in 1896, he joined the Milton Car Works. With the formation of the American Car and Foundry Company, of which Milton was a part, he became assistant general manager of the Milton district. During World War I, he handled all war production of the company, and in 1919 became vice president in charge of operations. In 1929, he became president and in 1940, chairman of American Locomotive Company. He resigned as chairman of the board at the conclusion of World War II, remaining as a member of the executive committee and of the board. He was also a member of the executive committee and of the board of directors of the American Car & Foundry Company. He was also an executive member of many well-known industries in the New York area.

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RAY F. KINNAN, 57, land man for Kerlyn Oil Company, Oklahoma City, died April 29 of a kidney ailment. Kinnan was employed by The Carter Oil Company at Tulsa until 1932, when he resigned.

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CHARLES V. C. BRADLEY, Texas production authority and veteran employe of Magnolia Petroleum Company, died in Little Rock, April 27. Bradley was born November 10, 1870, in Oil City, Pa., and after 40 years with South Penn Oil Company and Magnolia he retired in 1935. His ability in the training and development of individuals has been responsible for the success of many present-day oil executives and producers. He is survived by four sons, **M. V. C. BRADLEY,** assistant general superintendent, Magnolia Petroleum Company, Houston and Dallas; **C. J. BRADLEY,** district land man, The Texas Company, Houston and Tyler; **FRED D. BRADLEY,** assistant treasurer, Southern Union Gas Company, Dallas; and **M. J. BRADLEY,** Denver City, Texas.

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PAUL C. WHITE, 38, vice president and chief engineer of the Commonwealth Gas Corporation died April 8 in Arlington, Va. White served with the Federal Power Commission as head of the Natural Gas Resources and Reserves Section and had been with the Arkansas Department of Public Utilities, Little Rock, as senior engineer. He was a member of the Gas Resources Research Committee of the American Gas Association.

• • •

VERN A. HARDIN, 49, former geologist with The Carter Oil Company in Tulsa, died April 30 in Shreveport from a blood clot of the heart. Hardin joined Carter in 1924 and resigned in 1936 to join Power Oil Company in Louisiana. He became an independent operator in 1938 and in 1945 took charge of the land and exploration department of the Crown Central Petroleum Company at Shreveport, the position he held at the time of his death.

• • •

L. J. PERDUE, 56, oil dispatcher for Gulf Oil Corporation for 29 years, died April 26 in Tulsa. Born at Tyler, Texas, Perdue started with Gulf at the old Perryman station in Oklahoma and remained there until he moved to Tulsa eight years ago.

• • •

WILLIS E. KLUMPH, 82, former employe of Sinclair Refining Company's pipe line department, died in Tucson, Ariz., April 23. He lived in Tulsa from 1904 until his retirement from Sinclair in 1930. He was a district foreman at the time of his retirement.

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BRYAN B. BRALY, 51, oil scout and land man, for 22 years with the Barnsdall Oil Company, died in Shreveport April 26 of a cerebral hemorrhage. For several years he was chief scout for Barnsdall at the Tulsa office. He was a native of Leonard, Texas, had resided in Shreveport the past two years.

THE OIL MAN'S CALENDAR

MAY	
7– 8	American Gas Association, Natural Gas Dept., Cincinnati, Hotel Gibson.
7– 9	Petroleum Industry Electric Association, Annual Convention, Tulsa.
7– 9	National Association Corrosion Engineers, Kansas City, Missouri, President Hotel.
17–18	Southwestern District, Production Division, API, Spring Meeting, Shreveport, La., Washington-Youree Hotel.
23–25	National Oil Scouts and Landmen's Association, Annual Convention, Jackson, Mississippi, Hotel Heidelberg.
28–29	American Petroleum Institute, Directors' Meeting, Fort Worth, Blackstone Hotel.
JUNE	
6– 7	Mid-Continent District, Production Division, API, Spring Meeting, Oklahoma City, Skirvin Hotel.
7– 8	Kentucky Oil and Gas Association, Lexington, Ky., Hotel Lafayette.
13–14	Eastern District, Production Division API, Spring Meeting, Pittsburgh, Pa., William Penn Hotel.
17	FPC Gas Hearing, Washington, D.C.
27–28	Pennsylvania Grade Crude Oil Association, Annual Meeting, Pittsburgh, William Penn Hotel.
AUG.	
8–9–10	Interstate Oil Compact Commission, Quarterly Meeting, Grand Rapids, Michigan.
OCT.	
7–12	American Gas Association, Annual Convention, Atlantic City, N.J.
16–18	Texas Mid-Continent Oil and Gas Association, Houston, Rice Hotel.
NOV.	
11–14	American Petroleum Institute, Annual Meeting, Chicago, Stevens Hotel.

Republic Steel Officials Attend Warehouse Opening

Republic Steel Corporation officials from Cleveland attended opening ceremonies for Republic Supply Company's Houston warehouse.

Standing, left to right, are: E. M. Richards, vice president in charge of operations; P. F. Boyer, vice president and comptroller; C. M. White, president; N. J. Clarke, senior vice president and president of Republic Supply; J. M. Schendorf, vice president in charge of sales. Seated, left to right, Manly B. Brown, manager of sales for the pipe division; Gordon F. Hess, district sales manager, Detroit; A. B. Judd, vice president and general manager of Republic Supply Company, Houston; William Kelley, assistant to the vice president in charge of operations; and William Bachtell, manager of the warehouse department, Truscon Steel Company, Republic Steel subsidiary.

Sterling Engine Company Opens San Francisco Factory Branch

The Sterling Engine Company has recently opened a direct factory branch in San Francisco to serve expanding business west of the Rocky Mountains.

Hans Bohuslav, vice president and director of Sterling's engineering development and research, will be in charge of the new branch, assisted by Al Hahn, Navy Commander during the war who recently joined the Sterling organization. Both Bohuslav and Hahn are well-known engine specialists, having been associated for many years in engine development and service work on the West Coast.

Hans Bohuslav

Al Hahn

W. H. Pape Elected Vice President Of Jarecki Manufacturing Firm

W. Howard Pape, recently named manager of distribution of Jarecki Manufacturing Company, Erie, Pa., was elected vice president at the annual meeting of the company. Pape will make his headquarters in Houston where present facilities are being altered to meet immediate requirements pending availability of materials for the building of new offices and a larger warehouse. The company operates 30 branches in oil fields of the United States.

Spang-Chalfant to Close Chicago Office and Halt Pipe Shipments

The Spang-Chalfant Division of The National Supply Company has announced termination of shipments of pipe into the Chicago area and plans to close at an early date the company's Chicago sales office which has been in existence almost 50 years.

The announcement was made by G. E. Clifford, vice president of The National Supply Company, who said, "In view of present ceiling prices on welded pipe, and recent increase in wages, the company finds it unprofitable to sell in the Chicago area (comprising Northern Illinois, Iowa, Nebraska, Wisconsin and Minnesota) and to absorb the freight necessary to sell on the 'Gary Base'."

"In order to minimize as best it can the already acute shortage of pipe in this area, the Spang-Chalfant Division will continue shipments through June."

Hacker Completes Shops

Hacker Machine & Supply Company of Henderson, Texas, manufacturer of oil field specialties, has expanded with the completion of new shops on Highway 64. The new plant contains layout and shop facilities to expedite larger amounts of general machine shop work.

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TRADING POST SECTION
ON PAGE 67 OF THIS ISSUE

H. M. Cooley Is New President Of Tulsa Engineers Club

H. M. (Herb) Cooley, assistant metallurgical engineer attached to the staff of the operating vice president of the Bethlehem Steel Company, was elected president of the Engineers Club of Tulsa, succeeding C. V. Millikan, who becomes a director.

H. M. Cooley

Other officers chosen include Lloyd T. Gibbs, owner of the L. T. Gibbs Company, executive vice president; Dean A. Foster, mechanical engineer in charge of materials and priorities, Bethlehem Supply Company, treasurer; Robert G. Smith, sales engineer, General Electric Company, vice president in charge of entertainment; Lloyd E. Elkins, assistant chief production engineer, Stanolind Oil and Gas Company, vice president in charge of programs; Douglas O. Johnson, partner, Johnson-Fagg Engineering Company, vice president in charge of public relations.

W. A. Melton, district manager, The Foxboro Company, and Charles B. Gannaway, Jr., plant manager, Tulsa Boiler and Machinery Company, were named to the board of directors. The new officers will be installed at the annual banquet.

Mississippi Discusses Revision of Oil Rules

Mississippi is studying its oil and gas rules and regulations with a view of clarifying and codifying them, this because of the legislature's failure to lay down by law a plan of organization for the state's petroleum resources.

A meeting of 100 operators in Jackson recently brought forth few major objections although Senator Luther Whittington suggested that a stronger definition of "waste" be promulgated by the oil and gas board. He pointed out that the board possessed broad powers.

Elmer Patman of Superior Oil Company agreed that a general plan was essential but argued that fields and reservoir characteristics made supplemental regulations needed for the different areas.

It was agreed that all interested would study the rules and regulations closely and submit by May 15 any recommendations for revision or adjustment. The board will then adopt a tentative set of rules and will set a date for another hearing at which they will be discussed.

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